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PORT OF LIVERPOOL.



ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

TO THE

PORT SANITARY AUTHORITY;

FOR THE YEAR

1911.

[ORDERED BY THE PORT SANITARY AND HOSPITALS COMMITTEE TO BE
PRINTED, 28TH MARCH, 1912]

LIVERPOOL:

C. TINLING AND CO., LTD., PRINTING CONTRACTORS, 53, VICTORIA STREET.

1912 . . .

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Lent to Prof. Greenwood,
School of Hygiene.

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*Cholera and Plague
in Europe
and
Neighbouring Countries
during
1910 and 1911.*



PORT SANITARY AUTHORITY

OF

LIVERPOOL.

REPORT FOR THE YEAR 1911,

BY THE

MEDICAL OFFICER OF HEALTH.

In accordance with the duty imposed by the Local Government Board in their General Order, dated March 23rd, 1891, the following Report for the year ending December 31st, 1911, is made to the Liverpool Port Sanitary Authority.

The Report covers the work of the Authority during the year, and includes a summary of the measures adopted to discover Epidemic or Infectious Disease on shipboard, and to prevent their introduction into the Port or further spread on shipboard, as well as the steps taken to discover and abate any conditions inimical to health existing on any ships, vessels or canal-boats lying within the area of the Port. Moreover, there is given an account of the action taken under the Regulations of the Local Government Board issued under the Public Health (Regulations as to Food) Act, dealing with Foreign Meat and Unsound Food. The Report further includes an account of action taken under the Aliens Act, together with certain statistical information kindly supplied by the Board of Trade regarding Emigration from Liverpool during the course of the year.

The jurisdiction of the Authority is co-extensive with the limits of the Port, and includes within its area, not only the Docks, Quays, Wharves, &c., belonging to the Mersey Docks and Harbour Board, the extent of which is set out below in tabular form, but also the Docks of

the London & North Western Railway at Garston, as well as the lower portion of the Estuary of the Mersey and the sea within three miles of the coast line extending from Hoylake to Formby Point. And its powers are exercisable over any vessels lying within this area.

The estate of the Dock Board, exclusive of certain lands at Dingle, Trammere and Seaforth, is of the following dimensions:—

TOTAL WATER AREA AND LINEAL QUAYAGE OF THE LIVERPOOL
AND BIRKENHEAD DOCKS AND BASINS.

				Water Area.		Lineal Quayage.	
				Acres.	Yards.	Miles.	Yards.
Liverpool Docks and Basins	...	...		427	2,967	26	1,466
Birkenhead Docks and Basins	...	...		171	3,259	9	1,422
Total	...	...		599	1,386	36	1,128

AREA OF THE DOCK ESTATE.

Liverpool	...	...	...	...	1,171 $\frac{1}{4}$ acres.
Birkenhead	...	...	...	...	506 ,,
Total	...	...	...	...	<u>1,677$\frac{1}{4}$,,</u>

The included maps are slightly modified, with the kind permission of the Dock Board, from two recently published by them.

It is not without interest to note that the Authority now enters upon its thirty-ninth year, having been constituted by an Order of the Local Government Board dated June 11th, 1874.

During the year Regulations were issued by the Local Government Board dealing with Tuberculosis and came into force on January 1st, 1912. These Regulations do not apply to persons rejected by the Board of Trade Sanitary Inspectors at the clearances of emigrant ships.

Circulars and memoranda were issued during the year by the Local Government Board dealing with Acute Anterior Poliomyelitis (Infantile Paralysis) and Cerebro-Spinal Fever. These diseases were approved by the Local Government Board early in 1912 as diseases notifiable within the area of the Authority.

CHOLERA, PLAGUE AND YELLOW FEVER.

Cholera.

The sixth pandemic of Cholera, which has been present in Europe since 1904, made further progress during 1911; towards the end of the year, however, Cholera appeared to be well in hand in those countries where it still persisted.

The outbreak which appeared in Madeira in November, 1910, continued into January, 1911, when it was stamped out, and no further recrudescence has been reported.

The disease was widely prevalent in India as well as in other parts of the far East. A death from Cholera occurred on board the ss. "Craftsman" whilst at Pondicherry homeward bound for Liverpool. No further sickness occurred on her. In Java a considerable number of cases occurred in many of the coast towns. A case of "Java Fever" was reported on board the ss. "Ixion" from Java lying in the Birkenhead Docks. The patient, a Chinese fireman, was found to be suffering from Choleraic Diarrhoea and was removed to the Port Sanitary Hospital. The sickness was shown by bacteriological examination to be other than Cholera. The ss. "Teenkai" arrived in Liverpool on October 5th and reported that 23 pilgrims had died between Java and Jeddah and 13 died in Quarantine at Camaran. Fully 400 pilgrims were sick. The ship's surgeon was unable to state the nature of the disease, death frequently supervening with great rapidity. At Suez, four of the crew were landed in hospital as suspected cases, one of whom was shown, bacteriologically, to be suffering from Cholera. No further sickness occurred on board, all being found well on arrival at Liverpool. A death from Cholera occurred on the ss. "Coronation" whilst lying in Batavia but all on board were in good health on arrival in Liverpool.

In the early part of the year Cholera was still present in three or four of the Southern Governments of Russia, in Constantinople and Smyrna, and in the Southern Provinces of Italy and in Sicily. Latent infection probably existed elsewhere. The number of foci were therefore considerably more widespread than in the beginning of 1910 in which year Cholera spread widely throughout Russia. In 1911 it only became epidemic in the valley of the Volga, though a limited number of cases occurred in the central and southern governments. On the other hand, Cholera became widely prevalent throughout the Turkish Empire, and Italy, and from these disseminating foci it spread to other countries.

Cholera reappeared in Constantinople early in May, and 2,600 cases were recorded by the end of October; it reappeared in Bagdad shortly afterwards whence it reached Persia without, however, showing any wide diffusion there. In June it became epidemic in Samsoun. From these and probably other centres, it became widely spread. Numerous cases occurred amongst the troops operating in Albania and thence it reached the Adriatic coast and Salonica. In Asia Minor it was ubiquitous and thence it spread to centres on the Syrian coast. Pilgrims or troops conveyed it to the Hedjaz and Jeddah was affected in September and Mecca in November. The ss. "Karnak" was twice infected whilst in Constantinople; on the first occasion four of the crew were landed at Batoum and two died; on the second occasion—nine months later—three of the crew were landed at Smyrna, of whom one died. The manner of spread of infection could not be definitely ascertained but was probably *not* through infected water supplies.

Montenegro, Servia, Bulgaria and Roumania were also affected, though to a less extent, and a few cases occurred in Greece and the Aegean Islands.

A small number of cases occurred in Hungary, but widely scattered through the Danube Valley. A few cases occurred in Trieste, Fiume and other points on the Dalmatian Coast. One of the first cases to occur in Austria was probably infected by means of Oysters which he partook of in Venice, at that time and for some time subsequently, quite free from Cholera. This was in May.

The greatest centre of danger, however, was in Italy. On June 5th a passenger, who had arrived by the ss. "Saxonia" from Naples, died of Cholera at Trieste. Cases of Cholera developed amongst emigrants reaching New York by vessels which had left Naples on June 1st, 2nd, and 7th, and by another vessel which left Palermo on June 7th. On June 18th Cholera was reported present in Naples and on June 22nd. 32 cases were reported from Palermo. It rapidly spread through Italy until 37 provinces were infected, a severe outbreak of the type associated with water-borne infection occurring at Leghorn. By the end of December Cholera was reported as extinct throughout Italy.

On June 25th Cholera appeared in Marseilles; it would appear to have been imported from Italy, possibly through the agency of infected shell-fish. An uncertain number of cases occurred in the South of France. Some 112 cases of Pseudo-Cholera occurred in Paris, the organisms isolated from cases, though atypical, being almost certainly only modifications of the true comma bacillus. A few cases occurred in Barcelona and the vicinity of Tarragona. Cholera appeared in Tunis and Tripoli and refugees from Tripoli conveyed the contagion to Malta in October.

Cases of diarrhoea removed to the Port Sanitary Hospital from the ss. "Flavian" from Palermo and the ss. "Venedotian" from Genoa and Marseilles were found upon bacteriological examination to present no evidence of Asiatic Cholera.

One of the most alarming circumstances was the manner in which emigrants from Italy to New York developed Cholera during the voyage or subsequent to arrival. Some 26 cases of Cholera were thus noted. Towards the end of July sporadic cases began to appear in New York and Boston. The American quarantine authorities then made bacteriological examination of all immigrants from cholera-infected countries. Seven cholera "carriers" were found in this way at New York and one at Quebec. This method effectually guarded America from what appeared a very threatening danger. With the appearance of Cholera in New York all vessels reaching Liverpool from New York or Boston were visited by the Medical Officers and all cases of gastrointestinal disorder were investigated. None, however, proved suspicious of Cholera.

At the end of the year Cholera continued present in Albania, Asia Minor, Syria and other parts of the Turkish Empire, as well as in Tripoli and in Tunis.

The ports regarded as Cholera infected during 1911 were Madeira, Constantinople, Samson, Palermo, Trapani, Catania, Reggio, Salerno, Sorrento, Torre del Greco, Torre Annunziata, Naples, Nettuno, Leghorn, Genoa and Marseilles. For a period all vessels coming from New York and Boston were visited by the Port Medical Officers.

Detailed information with regard to infected and suspected ships will be found in the large table on page 22 and following pages.

The accompanying map shows the distribution of Cholera during the years 1910 and 1911 and is in continuation of the map published in the annual report for the year 1909. It shows the manner in which the disease reappears in those centres where it has been active in the previous year, even though no cases have been reported for an intervening period of many months.

Plague.

The situation with regard to Plague is almost identical with that which prevailed at the end of 1910. The outbreak of Pneumonic Plague originating in Mongolia extended as far south as Chefoo, but shortly afterwards with the approach of Spring the cases rapidly diminished in number and Manchuria shortly became free from the sickness. A few cases of Pneumonic Plague were reported amongst Tarbagan hunters in Mongolia in the Autumn, the usual season when this disease reappears in that locality. The Bubonic type prevailed in Amoy and other Southern Chinese ports. In Shanghai, where it had for long been heralded by Rat-Plague, Bubonic Plague began to appear amongst the human population.

In India the reduction in the number of cases which was recorded in 1910 was replaced by a considerable increase in 1911, an increase, however, largely confined to the United Provinces.

During the year Plague became established in a new centre in the Island of Java.

In the Mediterranean area sporadic cases were reported from several Levantine ports. During June and July a limited number of cases were reported from Alexandria and Port Said and rats were caught on a number of vessels from Egypt but were all found free from disease. Cases were reported from Phillippeville (Algiers) and in several centres in Morocco. In Odessa, where in 1910 Plague was epidemic, a few isolated cases revealed its persistence in this focus.

The ss. "City of Benares" arrived in Liverpool on May 5th having left Karachi on April 8th. She was medically examined and all on board found well. Forty-nine rats caught on board were examined by the Corporation Bacteriologist and found healthy. The vessel reached Glasgow on the 10th; on the 28th a Lascar was removed to hospital there and died of Plague two days later. No sickness appeared to have been present amongst the rats examined at Glasgow. The crew's quarters were disinfected there but no fumigation for the purpose of rat destruction was carried out. On arrival at Liverpool—outward bound—on July 1st, a further ten rats were caught and found to be healthy. It is difficult to account for the occurrence of this case. A period of no less than 50 days elapsed between the departure from Karachi and the occurrence of the case of Plague. The possibility of the disease having been contracted in Glasgow should not be overlooked.

The Ports scheduled as Plague infected were Bombay, Karachi, Calcutta, Bassein, and Rangoon.

Yellow Fever.

This disease continues endemic in certain of the countries bordering on the Mexican Gulf and in parts of Brazil and the West Coast of Africa.

Two cases were imported into Liverpool during 1911 and two cases occurred on board Liverpool bound vessels.

Rats.

During the year 3,097 rats were caught on board vessels from Plague infected ports. In November, 1910, a rat-catcher was appointed by Port Sanitary Authority to catch rats in Liverpool and Birkenhead lock sheds. 209 were caught in the North Docks, 305 in the South Docks, and 410 in the Birkenhead Docks and Warehouses, totalling

934 for the year. The above were forwarded to the Corporation Bacteriologist for examination and in all instances were found healthy. Before transmitting to the University the rats were dipped in petrol which effectually destroys all fleas.

Information was received from the Zeba Company as to 6,556 rats destroyed by them on board ship. A number of steamship companies employ rat-catchers to destroy rats on board their ships and in their sheds.

The ss. "Burnby" arrived in Liverpool in February from Karachi, via Antwerp and Brixham, in ballast, and the Master reported all well, and stated that he had seen no dead or sick rats on board. A certificate was, however, produced showing that the holds had been fumigated at Antwerp by means of the Marot apparatus on account of the presence of Plague amongst the rats on board, the holds having been only partially empty at the time of fumigation. The vessel was then boarded by the rat-catcher and living rats caught on board. The holds, which were empty, were fumigated again, by means of burning sulphur, and on opening out six dead rats were found. None of these showed evidence of Plague. The rat-catcher was unable to trap any further rats showing that the second fumigation was completely successful.

The s.s. "Tartary" from the River Plate via Manchester reached Liverpool in April. Twenty-seven dead rats were found amongst the hold sweepings and were sent to the Bacteriologist for examination. The s.s. "Carol Premier," also from the River Plate, was likewise found to have a number of dead rats amongst the cargo on her arrival in July, but they were mostly so decomposed that only two were found fit for examination. Living rats were trapped on both vessels, but no evidence of Plague was found amongst living or dead rats from either vessel.

Smallpox.

There was a marked increase in the number of cases occurring on Liverpool bound vessels, seventeen cases being landed in Liverpool, and twenty-five cases being landed abroad. This increase was largely due to the prevalence of Smallpox in the River Plate and South America. On board one vessel from Valparaiso six cases occurred owing to the cases having been regarded as Chicken-Pox by the Ship's Surgeon.

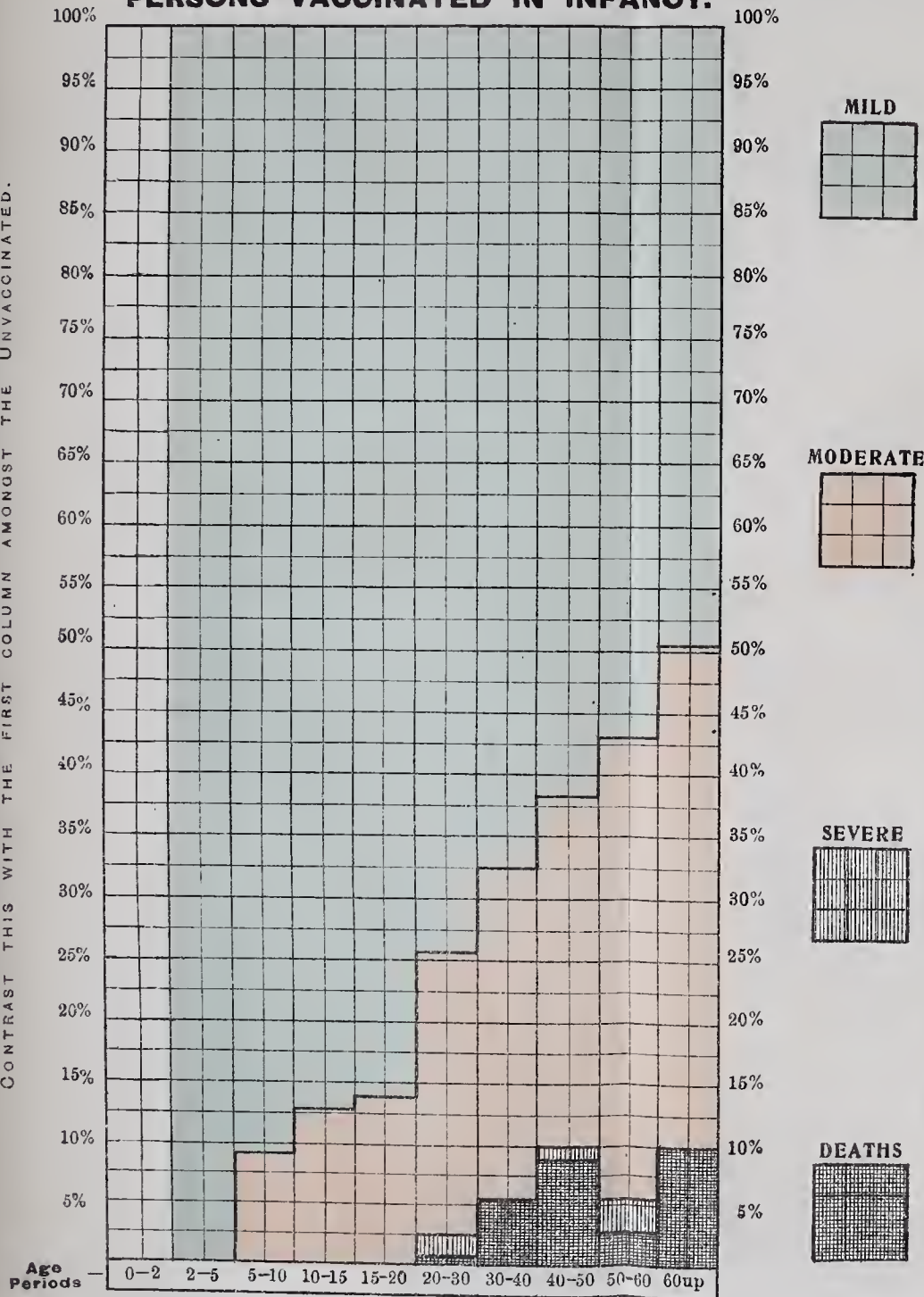
SMALLPOX

In Liverpool during ten years (1902-1911),

Showing the relative severity of the disease as it affects vaccinated and unvaccinated persons.

Each Column represents 100 patients at each age period.

PERSONS VACCINATED IN INFANCY.

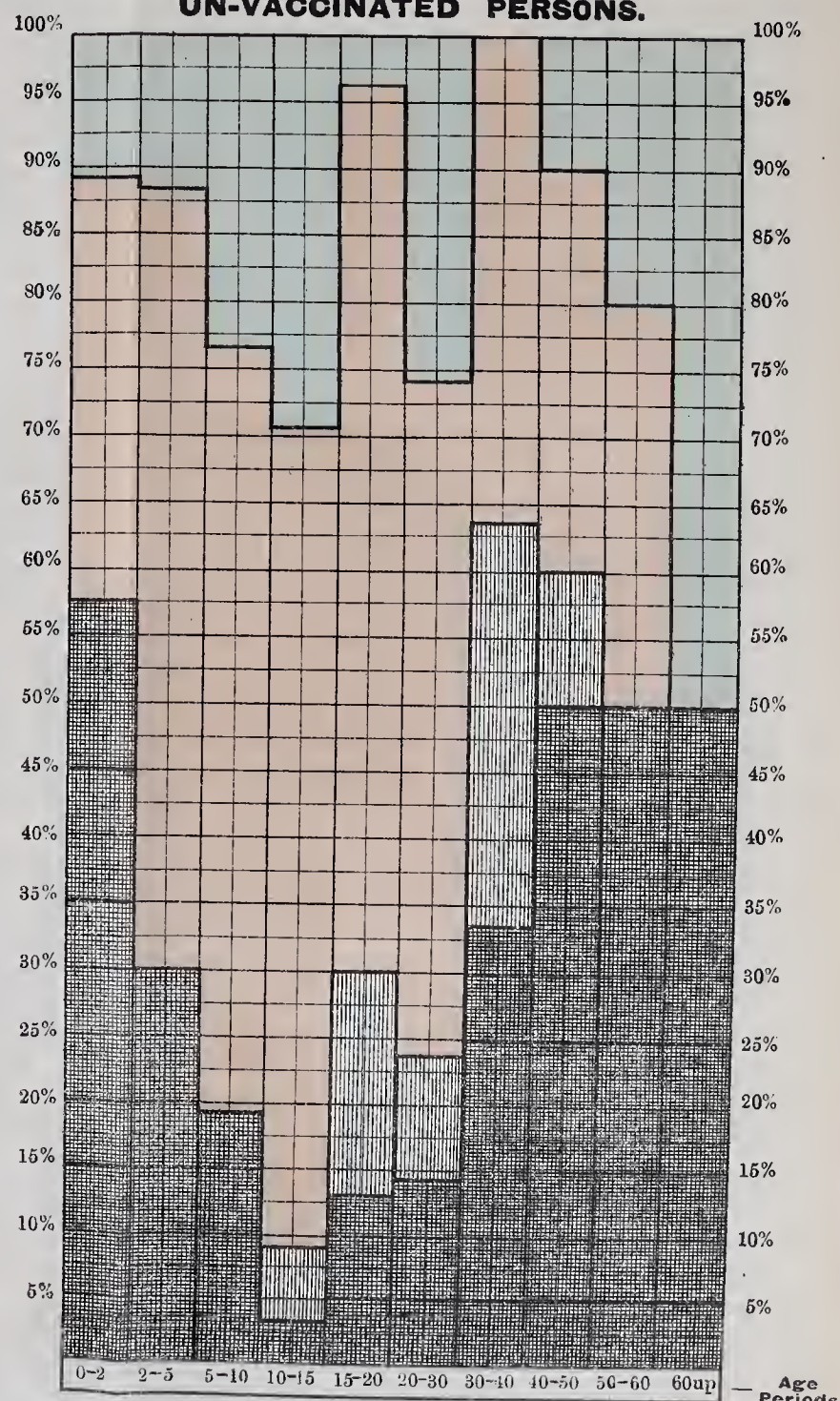


NO CASES BELOW TWO YEARS OF AGE.
CONTRAST THIS WITH THE FIRST COLUMN AMONGST THE UNVACCINATED.

NOTE:—

1. No cases of Smallpox under 2 years of age.
2. Great majority of persons attacked have the disease in mild form.
3. Gradual loss of vaccination immunity as age advances.
4. No deaths occur until later life.

UN-VACCINATED PERSONS.



NOTE:—

1. Many cases occur under 2 years, the comparatively large proportion of these children die.
2. No influence to control the fatality of the disease, except the recuperative power of youth, as seen from 10-30 years.
3. Deaths very numerous in children under 10 years, or persons over 40 years.

FORMS VACATED IN 1964

Another member of the crew developed Smallpox in his home at Maryport, and one passenger developed the disease in his home at Barrow. The latter was unvaccinated and developed a severe form of the disease, whereas the other cases were vaccinated and of mild character. Smallpox was epidemic in Palermo at the latter end of the year. Vessels from this port were at the time being medically examined on account of Cholera.

The extent of the work done by the Port Sanitary Authority is shown in the statistics of notifiable infectious disease for 1911, published by the Local Government Board. Of a total of 30 cases of Smallpox notified to the Port Sanitary Authorities of England and Wales 17 or more than half were recorded from Liverpool.

The ports of origin of the cases were:—

TABLE 1.

	Landed in Liverpool.	Landed elsewhere.
Canada	1 case removed from home.	1 case on outward voyage.
Boston	2 cases on 1 vessel.	
River Plate..	5 cases on 4 vessels.	3 cases on 2 vessels.
Valparaiso ..	6 cases on 1 vessel.	1 case.
Beirut		1 case.
Karachi ...	2 cases on 1 vessel.	3 cases on 2 vessels.
Bombay ...		2 cases on 1 vessel.
Calcutta ...		1 case.
Rangoon ...	1 case.	1 case same vessel.
W.C.Africa		3 cases on 2 vessels.
Java		4 cases on 2 vessels.
Japan and China		5 cases on 3 vessels.
	17 cases on 9 vessels.	25 cases on 15 other vessels
Total...	42 cases on 24 vessels.	

The names and addresses of all persons having been in contact were obtained and forwarded to the Authorities of the various districts of destination in all cases. 317 persons were vaccinated on the above vessels by the Port Medical Officers.

The accompanying diagram prepared by Dr. Hanna from the returns of 1,163 cases of Smallpox occurring in the City and Port of Liverpool during the past ten years, shows clearly the relative severity of the disease as it affects the vaccinated and unvaccinated, the outstanding points of comparison between the two groups are clearly shown on the chart.

Enteric Fever.

Thirty-five cases of Enteric Fever were imported into the Port of Liverpool over seas during 1911. A further ten cases removed from shipboard as Enteric proved to be suffering from other diseases. Of all cases occurring in the City of Liverpool those imported by ship formed 17·1 per cent. as compared with 12·8 per cent. in 1910. A further 10 cases, or 6 per cent., were due to the consumption of infected shellfish, in eight cases mussels. (See chart opposite). Information with regard to the importation of infected shellfish is given on page 66. The ports from which the vessels introducing cases of Enteric Fever came, are shown in the following table, the Eastern seaboard of America figuring very largely as in previous years.

TABLE 2.

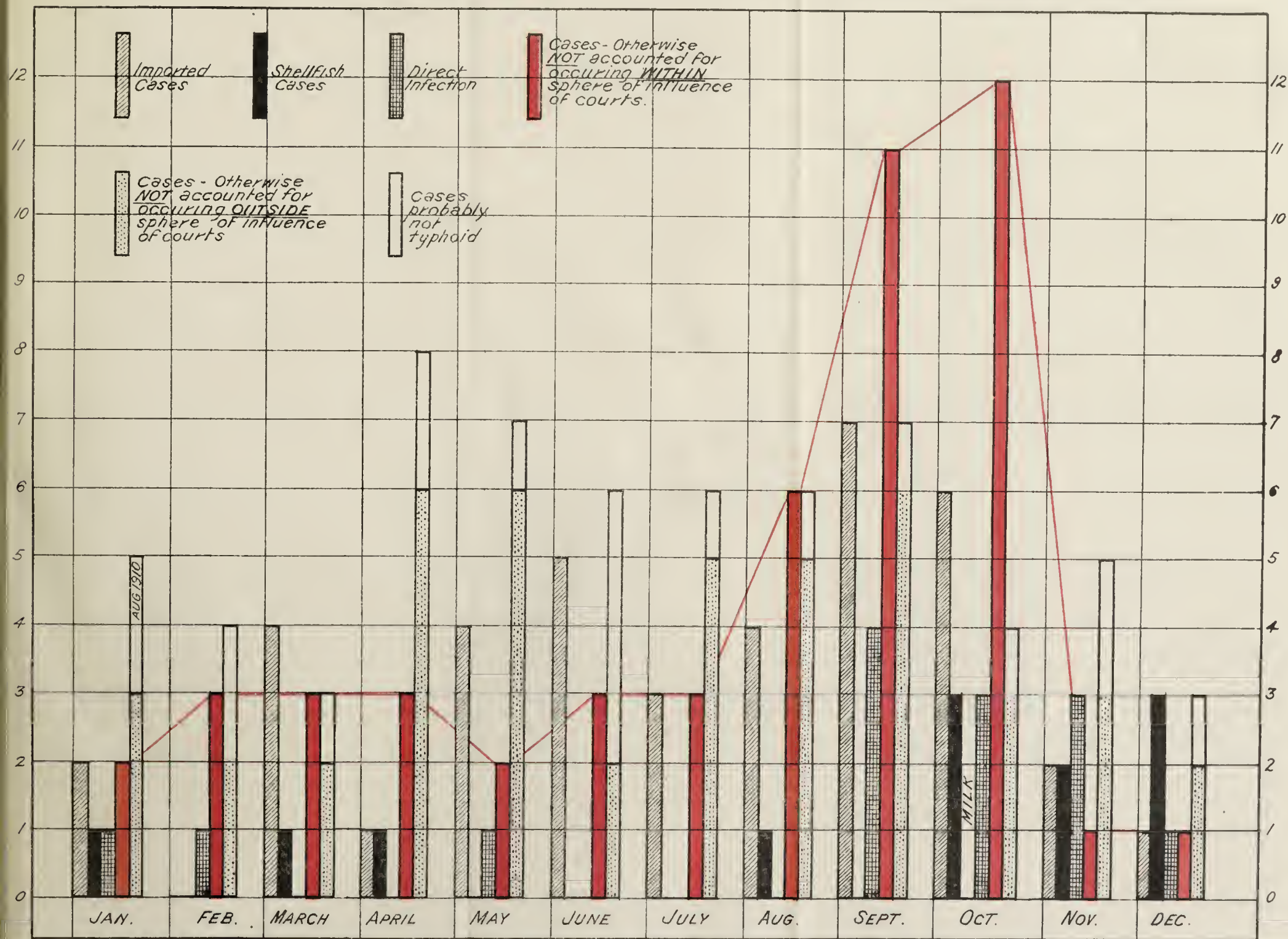
	Landed in Liverpool and Manchester.	Landed abroad.
T. S. "Indefatigable"	1	0
Home Ports	1	0
Montreal	4	3
Halifax and St. John	2	1
†New York	5	0
Wilmington	1	0
†Mexican Gulf Ports	7	3
Para	1	0
*River Plate	4	8
West Coast South America	2	1
Riga	2	0
Spain and Italy	2	0
West Coast of Africa	3	0
India	1	5
Australia	0	1
	<hr/> 35	<hr/> 22

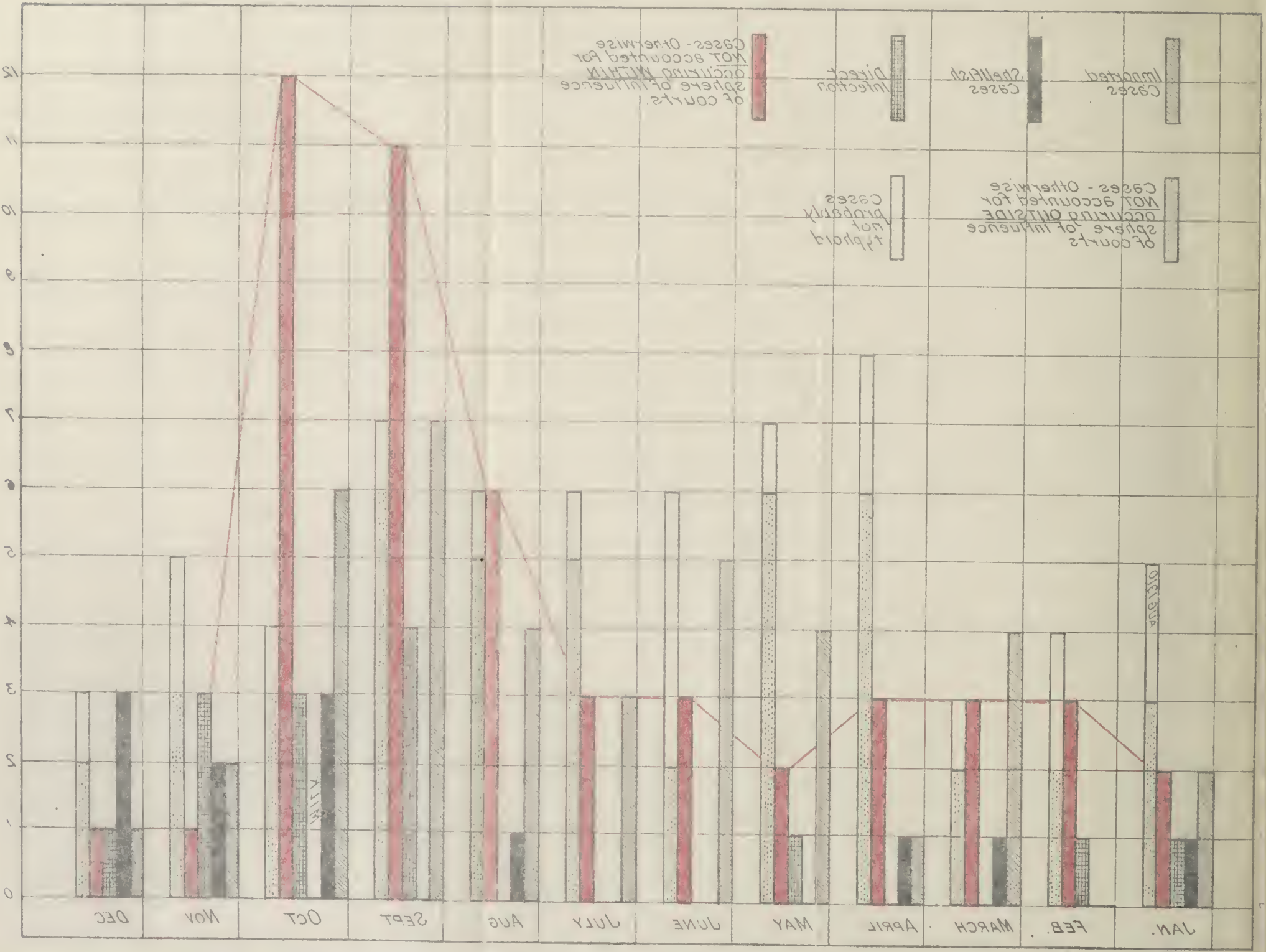
*One landed at Manchester, one removed from home in Bootle, and one proceeded to Wallasey. †One case due to consumption of oysters.

‡Two cases due to consumption of oysters.

CITY OF LIVERPOOL.

Cases of TYPHOID FEVER occurring during 1911. arranged by months and according to probable causation.





The following instances illustrate the channels of infection on shipboard.

During the end of 1910 and beginning of 1911 an outbreak of Enteric occurred on the training ship "Indefatigable" lying in the River Mersey. The first case that occurred was of an anomalous type, and the boy, Hill by name, was too ill to be removed when the diagnosis of Enteric Fever was arrived at. This boy was a great friend of another boy, Bellamy, who had been visiting his family in B—— Street, Liverpool, where Enteric was then prevalent, but Hill never had any direct connection with this house. Bellamy subsequently developed Enteric, and it is probable that he first acted as a temporary carrier, infected Hill, and then developed the disease himself. The remaining eight cases, together with four suspected cases, were removed to hospital. Considerable difficulty was experienced in discovering the manner of infection. One boy, who was a hospital orderly, was obviously directly infected, as was also a boy who was a friend of Hill and Bellamy. Milk, water and shellfish were excluded. The cases were not confined to any one mess, ward or class. The kitchen staff were all examined by the Widal test for chronic carriers. All convalescent cases were removed to the Port Sanitary Hospital for observation and a bacteriological examination of their excreta repeatedly performed, but without result. Two possible methods of spread were discovered: the accommodation for the boys consisted of trough closets, which are to be regarded with suspicion; secondly, the boys' dirty linen was washed in a tank immediately adjacent to that in which they bathed. These matters were improved shortly before the cessation of the outbreak, but probably most of the cases were due to direct infection from person to person.

Several cases occurred on a vessel which had filled her fresh water tanks with the Montreal town supply which is taken, without filtration, from the River St. Lawrence. A fireman and a seaman were removed to hospital from their homes after the vessels arrived back in Liverpool. A steward and two firemen were landed on the vessel's subsequent return to Montreal, between June 20th and June 23rd, and a fireman who had taken ill at his home in Liverpool, four weeks after the vessel's return to Liverpool, was also found to be suffering from Typhoid Fever, no other probable source of infection being discoverable.

Two stewards on board two passenger vessels from New York were probably infected by consuming uncooked oysters on board ship, whilst an A.B. on the s.s. "Dictator" was infected by oysters consumed in Galveston.

In several instances passengers on vessels from the United States developed the sickness during the voyage or shortly after arrival and were, therefore, allowing for an incubation period of twelve days or more, infected before departure from America. Members of the crews of

several vessels from River Plate and Mexican Gulf Ports were infected during the stay of the vessel in port. In many instances, however, the manner of infection was not discoverable.

Consular Health Certificates.

During the year the demand for certificates indicating the freedom of the City or Port from quarantinable infectious sickness showed a slight increase, the number of certificates of this character issued to merchants and shipowners for various Consular purposes during 1911 being 447.

Hold Sweepings.

As there appeared a possibility of the bodies of rats, which had died of Plague, being brought ashore in the sweepings and refuse of holds and being the means of introducing the disease into the port an enquiry was instituted into the manner of disposal of such sweepings and refuse. The practice varies considerably with the different trades. Thus in vessels from the West Coast of South America which carry large quantities of crude copper, the sweepings are sent to an oresmelter. The sweepings from vessels with grain, peas, linseed meal, etc., are commonly divided amongst the consignees. Damaged grain, etc., is usually sold for poultry or cattle food. In vessels carrying also hides and hair or bones the mixed sweepings are a not unlikely source of infection of cattle with Anthrax or even Foot and Mouth Disease. In other cases the sweepings are placed in heaps outside the sheds and are subsequently removed to the Dock Board Destructors. In other cases again, such refuse is burnt in the ship's furnace or stored on the deck and subsequently thrown overboard at sea. The method of disposal in the ship's furnace is free from all objection.

Instructions have been given for a close watch to be kept for dead rats when clearing out holds and for information as to the finding of dead rats to be transmitted to the Authority, with a view to minimise the risk of importation of Plague. As regards the risk of importation of Anthrax or Foot and Mouth Disease the matter is receiving the careful attention of the Board of Agriculture at the present time.

The following table epitomises the results of enquiries as regards cargoes coming from the countries which may be regarded as likely sources of the infection of Plague or Anthrax.

TABLE 3.
METHODS OF DISPOSAL OF REFUSE FROM HOLDS, &c.

Steamship Company	Trading to	Character of Cargo.	Method of Disposal.
Indian Trade.			
A	Bombay, Karachi and Mauritius	Wheat, hides, bones cotton, sugar, and general	"Clean" sweepings of grain, &c., divided amongst consignees. Remainder thrown overboard at sea or placed outside shed for removal to Dock Board destructor.
B	Bombay and Calcutta	—	Put ashore at Glasgow in Company's bin.
C	Bombay and Karachi	—	Placed on quay for removal to Dock Board destructor.
—	Calcutta	Rice and general	"Clean" grain sweepings divided amongst consignees; damaged grain used for cattle-food.
D	Madras, &c.	Wheat, ore and general	Placed on quay for removal to Dock Board destructor.
E	Rangoon	Maize, beans, hides, rice, oilcake, &c.	Grain sweepings divided amongst consignees. Damaged grain used for cattle-food. Other sweepings thrown overboard at sea.
China, West Coast North America and East Indies.			
A	—	Rice, meal, dry hides and general	Sweepings of holds and sheds removed to Dock Board destructor. Damaged meal used for cattle-food.
West Coast of South America.			
A	—	Dry hides, grain, ores, copper, cotton and general	Sweepings placed on quay for removal to Dock Board destructor or burnt in ship's furnace.
B	—	—	If copper or ores, sent to smelter.
C	—	—	If copper or ores, sent to smelter; if general cargo thrown overboard at sea.

METHODS OF DISPOSAL OF REFUSE FROM HOLDS, &c.—*continued.*

Steamship Company	Trading to	Character of Cargo.	Method of Disposal.
Argentine and Brazil.			
A	Buenos Ayres and Rosario	Potatoes, grain, wet and dry hides	Grain sweepings sold for fowl food.
B	Buenos Ayres	Frozen meat	Sweepings consist of sawdust removed to farms for manure.
C	Rosario	Grain	Sweepings sieved. Grain removed ashore in sacks, refuse thrown overboard at sea.
--	Rio de Janeiro	Coffee and manganese	Sweepings thrown overboard at sea.
D	Brazil	Hides, coffee, grain and general	Sweepings put ashore for removal to Dock Board destructor.
E	Para and Manaos	Rubber, coffee, hides, &c.	Sweepings put ashore for removal to Dock Board destructor.
Mediterranean and Black Sea.			
A	Constantinople and Alexandria	Fruit, rags, cotton, hides, ores and general	Stored on deck and thrown overboard at sea.
—	Lisbon and Oporto	Onions, fruit and general	Stored on deck and thrown overboard at sea.
—	Italy, &c.	Fruit, bones, rags, and general	Stored on deck and thrown overboard at sea.
B	Italy, &c.	Fruit, bones, rags and general	Stored on quay for removal to Dock Board destructor.
C	Italy and Spain	Marble, fruit, rags and general	Stored on quay for removal to Dock Board destructor.

METHODS OF DISPOSAL OF REFUSE FROM HOLDS, &c.—*continued.*

17

Steamship Company	Trading to	Character of Cargo.	Method of Disposal.
D	Constantinople.....	Fruit, rags, bones and general	Sent to Dock Board destructor in Company's refuse wagon.
—	Black Sea	Grain and fruit	Sent to Dock Board destructor in Company's refuse wagon.
—	Alexandria	Grain, cotton and general	Sent to Dock Board destructor in Company's refuse wagon.
E	Black Sea, Syrian Coast and Alexandria	Maize, grain, oilcake, &c. Fruit	Grain sweepings proportionately divided amongst consignees. Damaged grain, &c., used for cattle-food or patent manure.
Various Tramp Vessels			
Birkenhead Docks	Argentine and Black Sea	Grain	Sweepings dealt with as rest of cargo. Hold refuse burnt in furnace. Refuse from gratings placed on tip for eventual removal to sea by hopper.
Waterloo Dock	Black Sea	Grain	Sweepings, &c., as above. Refuse removed to Dock Board destructor.
South Docks	Black Sea	Grain, oilcake	Sweepings divided; damaged grain used for cattle-food.
London.			
A	—	Oilcake, hides, &c., and general	Put ashore on quay for removal to a farm.

Anthrax.—There has been a considerable reduction in the number of cases of this dangerous disease arising from the handling of imported animal products such as hides, skins, wool, etc., during the past few years. Fluctuations in the number of cases occur from time to time, due, in all probability, to the presence of epidemics amongst animals abroad.

An increased knowledge of the disease and the channels of infection amongst those who handle imported materials no doubt contributes to this reduction. Every opportunity is taken by the Authority's officers to inform wool sorters, dock labourers and others of the dangers associated with this work. Infected consignments are followed up by reporting them to the Health Authorities of the districts of destination.

This disease was made compulsorily notifiable in Liverpool by a recommendation of the City Council passed on 1st June, 1910, this was subsequently approved by the Local Government Board.

Much good has resulted from this prompt notification, especially in the direction of obtaining information concerning cases arising amongst workers in places which are not, as regards notification, under the Factory and Workshops Act, e.g., workers in dock sheds and quays, carters on docks, sorters in hide and skin stores.

Contamination of Cattle Foods.—In connection with the spread of Anthrax to farm animals owing to the contamination of cattle food products with the spores of the bacillus during shipment in foreign parts and during the voyage, the Port Sanitary Authorities officers who are the local Inspectors under the Diseases of Animals Act of the Board of Agriculture, have kept this matter constantly before them, systematic enquiries have been made as to the possibility of contamination of cattle food products. Further information on this point is given in the table on page 15 and in the paragraphs headed hold sweepings.

In addition, the Board of Agriculture have issued a notice to ship-owners and others concerned, pointing out that special precautions should be adopted, when cargo containing animal products likely to be infected (such as hides, hair, wool, etc.,) is carried in the holds, to secure the most thorough disinfection of the holds and other parts before such places are used for carrying any cargo likely to be used as cattle food. The following process of disinfection is recommended:—

Thoroughly sprinkle the compartment to be disinfected with an antiseptic solution to prevent raising of dust. Sweep down the sides and floors; carefully collect all dust and refuse therefrom and destroy by fire. Then wash the sides and floors with a strong solution of Miscible Carbolic Acid (not less than 5 per cent. of acid), or a 3 per cent. solution of Formalin which contains not less than 40 per cent. of Formaldehyde.

Persons employed on the work should wear indiarubber gloves as a protection against inoculation.

The Port Isolation Hospital.

The Isolation Hospital was erected in 1877 on land adjoining the Quarantine area, and is used for the accommodation of sea borne cases.

When Plague threatened our Port in 1901 and 1902, the hospital was extended by the addition of a more permanent and modern pavilion; also suitable laundry, disinfecting apparatus and nurses' quarters were added.

This hospital is not large enough to accommodate all sea borne cases which have increased in number with the trade of the Port; it is therefore necessary to remove cases of the usual type found in the City to institutions where these diseases are already accommodated. The large majority are removed to Liverpool hospitals, but cases have, although very rarely, been removed to Birkenhead, Bootle and Wallasey Hospitals when the vessel was berthed in the area of these authorities, and when such removal could be conveniently effected.

Urgent administrative conditions in connection with Liverpool, Birkenhead, and any of the neighbouring authorities sometimes, though rarely, require the hospital to be used for the isolation of cases which may not come strictly under the jurisdiction of the Port Sanitary Authority.

The accompanying photographs show the situation and extent of the Hospital buildings.

TABLE 4.

INFECTIOUS DISEASE.

The actual number of cases of infectious sickness landed from vessels arriving in the Port of Liverpool during the years 1910 and 1911, and the comparison with the average of the preceding 10 years, is shown in the following Table:—

Diseases.	Number of Cases.		Average for the 10 years preceding 1910.
	1910.	1911.	
Smallpox	2	17	9·9
Scarlatina	19	7	12·1
Typhus Fever	0	0	0·6
Enteric Fever	43	35	32·9
Do. (suspected)	0	10	0·0
Diphtheria.....	9	4	5·1
Measles	25	16	18·1
Whooping Cough	1	0	0·3
Erysipelas	5	6	4·7
Chicken Pox	3	4	4·8
Cholera and Choleraic Diarrhœa .	3	3	0·3
Yellow Fever.....	1	2	0·2
Plague	0	0	0·8
Suspected Plague	6	8	5·3
German Measles	0	1	0·9
Puerperal Fever	0	0	0·2
Dysentery	5	1	0·5
Totals.....	122	114	96·7

TABLE 5.

INFECTIOUS DISEASE.

The number of cases of infectious sickness reported to have occurred on Liverpool-bound ships during the years 1910 and 1911, and which were disposed of prior to the arrival of the vessel at this port, and the average of such cases for the preceding 10 years, are as follows:—

Diseases.	Number of Cases.		Average for the 10 years preceding 1910.
	1910.	1911.	
Smallpox	8	14	12·7
Scarlatina	3	0	1·3
Typhus Fever	0	0	0·2
Enteric Fever	4	18	10·0
Diphtheria.....	0	3	1·8
Measles	4	4	6·2
German Measles ...	5	2	0·6
Erysipelas	1	2	0·3
Chicken Pox	0	2	2·5
Cholera and Choleraic Diarrhœa..	14	31	2·5
Yellow Fever	10	2	4·9
Plague	3	1	1·3
Suspected Plague.....	2	2	1·4
Totals..	54	81	45·7

The following Table gives the particulars of the 144 vessels on board with the measures adopted in each case :—

TABLE 6.

Date 1911.	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.		
Jan. 2	Merganser ...	Rotterdam ...	Erysipelas ...	...	...	...
Jan. 6	Ambrose ...	Para... ...	Yellow Fever	...	...	...
Jan. 6	Batanga ...	Las Palmas	Suspected Plague	New Ferry	...	...
Jan. 9	Empress of Ireland	St. John's, N.B.	Measles ...	Fazakerley	...	...
Jan. 12	Campania ..	New York ...	Scarlatina ...	Fazakerley	...	...
Jan. 12	Benue ...	West Coast of Africa	Enteric Fever	...	...	...
Jan. 16	Bhamo ...	Rangoon ...	Suspected Plague	New Ferry	...	...
Jan. 18	Karnak ...	Constantinople	Cholera ... (4 cases)	Batoum	...	...

reported on their arrival as having, or having had, Infectious Disease

REMARKS.

The patient proceeded with the vessel to Manchester, the authorities there being notified.

The patient, a passenger, was landed at Para, on the homeward passage.

This vessel left Teneriffe on the 29th December, 1910, and reached Liverpool about mid-day January 6th, 1911. At 5 p.m., shortly after the vessel had docked, a Customs Officer, whilst rummaging the vessel, found a Negro Fireman lying sick in his bunk. He had only been ill for some ten or twelve hours, and the fact had not been reported to the Master. The Customs Officer informed the Assistant Medical Officer, who immediately visited the ship, and found the man suffering from a Femoral Bubo, Fever, and other symptoms suggestive of Plague, he was at once removed to the Port Hospital, and the forecables placed under fumigation. The vessel was moored away from the quay, and the cargo discharged under observation. The sickness proved to be non-infectious.

The patient, a third-class passenger, was removed to the City Hospital, Fazakerley

One of the saloon passengers, who was suffering from Scarlatina, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

The patient, the captain of this vessel, developed the Disease after arrival at his home in the city, the vessel and bedding being disinfected by the Port Sanitary Officers and City Staff.

One of the native crew having symptoms suspicious of Plague, was removed to the Port Hospital for observation, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

Four cases of Cholera occurred whilst at Batoum, two of which proved fatal. All the cases were removed to the Hospital at Batoum, the water tanks emptied and cleansed, and the crew's quarters disinfected twice. On arrival in Liverpool all were found well.

Date 1911	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
Jan. 23	Megantic ...	New York ..	Diphtheria ...	Grafton Street.
Jan. 23	Hilary ...	Manaos and Para	Yellow Fever	New Ferry ...
Jan. 23	Lusitania ...	New York ...	Scarlatina ...	Park Hill ...
Jan. 28	Elstree Grange	Buenos Ayres	Enteric Fever	... ..
Jan. 28	Orissa ...	West Coast, S. America	Chicken-pox	... ..
Feb. 6	Hesperian ...	Halifax ...	Measles ...	Park Hill ...
Feb. 18	Iowa ...	Galveston ...	Enteric Fever	Fazakerley
Feb. 19	Baltic ...	New York ...	German Measles	Fazakerley ...
Feb. 27	Mauretania ...	New York ...	Enteric Fever	Netherfield Road

REMARKS.

The patient, a steward, was removed to the City Hospital, Grafton Street, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

This vessel arrived in Liverpool on January 23rd, having on board a steward, suffering from Yellow Fever. He was taken sick on the day after leaving Para, January 11th, and was isolated in the Ship's Hospital on that date. No other case occurred. On arrival in this port, the vessel was medically inspected by the Assistant Port Medical Officer, and all on board found well, with the exception of the patient, who was removed to the Port Hospital. Disinfection of the vessel, and bedding, was carried out by the Port Sanitary Officers and the City Staff.

The patient, a steerage passenger, was removed to the City Hospital, Park Hill, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

The patient, a seaman, was landed at Las Palmas on the homeward passage. Disinfection of the vessel being carried out by the ship's officers.

The patient, being convalescent and free from infection, was allowed to proceed. Disinfection of the vessel being carried out by the Port Sanitary Officers.

The patient, a second-class passenger, was removed to Hospital, and the vessel disinfected by the Port Sanitary Officers.

One of the crew, a fireman, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Hospital and the City Staff.

The patient, one of the stewards, was removed to Hospital, and the vessel disinfected by the Port Sanitary Officers.

The patient, a steerage passenger, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

Date 1911.	Name of Vessel.	Where from	Nature of Sickness.	Hospital to which Patient was removed.
Feb. 27	Burnby ...	Karachi <i>via</i> Antwerp	... ..	... ..
Mar. 2	Ivernia ...	Boston ...	Small-pox ..	New Ferry ...
Mar. 6	Grampian ...	St. John, N.B	Measles ..	Park Hill ...
Mar. 8	Harmonides	River Plate...	Enteric Fever	... ..
Mar. 9	Zeeland ...	Boston ...	Mumps ...	... ..

REMARKS.

This vessel arrived in Liverpool on the 27th of February, and was visited by the Assistant Port Medical Officer, and a certificate obtained from the Master that no deaths or sickness had occurred during the past voyage, and that no dead rats had been seen on board. As the Medical Officer was aware that a vessel, name unknown, had recently arrived at Antwerp, and had been subjected to deratisation there on account of the presence of Plague amongst the rats on board, enquiry was made as to whether the s.s. "Burnby" was the vessel on which this occurred. The Master replied in the negative, and the vessel entered "Clovers" Graving Dock, but was kept under close observation, and the rat-catcher employed. On the 28th February, the Sanitary Inspector, visiting the vessel, obtained evidence that the "Burnby" was the vessel fumigated at Antwerp; in the meantime rats, caught on the vessel were submitted to the Corporation Bacteriologist. Next morning, the vessel left the Graving Dock, and whilst in the river, was again visited by the Assistant Medical Officer, and a certificate from the Port Sanitary Authority at Antwerp, which had previously been with-held, was obtained from the Master. This certificate stated that the vessel had been fumigated at Antwerp on account of the presence of Plague Rats ("Rats Pesteux") on board. The vessel was accordingly ordered to the Quarantine ground, and the holds, store-room, and crew's quarters fumigated with Sulphur Dioxide. Six dead rats were removed from the holds, after the fumigation was completed. The vessel was then allowed to proceed to the Bramley Moore Dock. The rats were submitted to Bacteriological examination, but no evidence of Plague was found.

This vessel arrived in the port on March 2nd, and on the following day, James Maguire, aged 38 years (a fireman), was removed from his home to the Port Hospital, suffering from a mild and very modified attack of Small-pox. Maguire stated that though he had been sick for some days prior to arrival, he did not report himself to the Ship's Surgeon. The vessel and bedding was disinfected by the Port Sanitary Officers and City Staff, and a list of the names and addresses of all the engine-room department obtained. Maguire contracted the disease from another fireman (Burns), who had been treated for Acne, on the outward voyage to Boston. Burns could not be found at the address given, but was removed to Hospital from the vessel on his resuming work; he was at large for 18 days.

The patient, a child passenger, was removed to the City Hospital, Park Hill. Disinfection by Port Sanitary Officers.

The third engineer of this vessel who was suffering from Enteric Fever, was left in Hospital at Buenos Ayres on the homeward passage.

The patient, a passenger, proceeded to his home.

Date 1911.	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
Mar. 15	Wanderer ..	Galveston ...	Enteric Fever	Grafton Street
Mar. 15	Achilles ...	Yokohama ...	Small-pox (2 cases)	... ..
Mar. 20	Baltic ..	New York ...	Erysipelas ...	... ..
Mar. 21	Highland Enterprise	River Plate...	Enteric Fever	... ..
Mar. 24	Craftsman ...	Calcutta ...	Cholera ...	... ..
Mar. 27	Elysia ...	Bombay ...	Enteric Fever	Netherfield Road
Mar. 27	Huntsman ...	New Orleans	Enteric Fever	Netherfield Road
Mar. 31	Waterwitch	Charlestown	Enteric Fever	Netherfield Road
April 4	City of Calcutta	Calcutta ...	Small-pox ...	... ..
April 6	Teen kai ...	Shanghai ...	Small-pox (2 cases)	... ..
April 10	Franconia ...	Naples ...	Enteric Fever	Netherfield Road
April 10	Indore ...	Galveston ...	Enteric Fever	... ..
April 11	Waipara ...	Brisbane ...	Enteric Fever	... ..
April 15	Burutu ...	West Coast of Africa	Enteric Fever	... ..
April 15	Trafford Hall	Karachi ...	Measles ...	... ..

REMARKS.

The patient was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

Two of the crew of this vessel, the purser and a Chinaman, were left in Hospital at Kobe, suffering from Small-pox. Disinfection being carried out at that port.

The patient, one of the passengers, on arrival at this port proceeded to his home.

One of the crew, suffering from Typhoid Fever, was left in Hospital at La Plata on the homeward passage.

One of the native crew was left in Hospital at Pondicherry, suffering from Cholera, where disinfection of the vessel was carried out.

The patient was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

One of the firemen, suffering from Enteric Fever, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

The patient, the mate of this vessel, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

A passenger, having Small-pox, was left in Hospital at Port Said, on the homeward passage. Disinfection being carried out at that Port.

The patients, two quartermasters, were landed at Nagasaki, and Shanghai, on the passage home. Disinfection was carried out abroad.

The patient was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

The patient was left in Hospital at Galveston, where disinfection of the vessel was carried out.

The patient, an engineer, was left in Hospital at Brisbane, on the homeward passage.

The patient, one of the crew, who had gone to his home in the city, was reported as suffering from Enteric Fever.

The patient, a child passenger, suffered from Measles during the passage, but had recovered on arrival in this port.

Date 1911.	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
April 24	Quernmoor ...	Karachi ...	Small-pox ...	... ..
April 25	Calchas ...	Singapore ..	Suspected Plague	... ..
April 25	Chaseside ..	Campana ...	Enteric Fever	Netherfield Road
May 4	Highland Hope	River Plate ...	Small-pox ..	New Ferry ...
May 5	City of Benares	Bombay ...	Plague ...	... ..
May 6	Corinthian ...	St. John's ...	Enteric Fever	.. ...
May 6	City of Athens	Glasgow ...	Small-pox (2 cases)	New Ferry ...
May 8	Cedric ...	New York ...	Measles ...	... ..
May 9	Mauretania	New York ...	Enteric Fever	Netherfield Road
May 9	Mauretania	New York ...	Measles ...	Fazakerley ...
May 9	City of Benares	Karachi ...	Enteric Fever	... ..
May 9	Friesland ...	Philadelphia	Scarlatina ...	Fazakerley ...

REMARKS.

One of the crew, a fireman, suffering from Small-pox, was landed at Suez, where re-vaccination of the crew and disinfection of the vessel was carried out.

The patient, a Pilgrim, was landed at Batavia, where disinfection of the vessel was carried out.

The patient was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

On arrival of this vessel in the port, a seaman passenger was found to be suffering from Small-pox, and was removed in the ship's boat to the Port Hospital, together with one contact and the steward who had attended on him. Thirty-five of the crew and passengers were re-vaccinated, and the vessel and effects disinfected. A list of the names and addresses of all on board was obtained, and these were kept under daily observation. There was no extension of the Disease.

The patient was landed and died in Glasgow. See page 9 for further particulars.

One of the crew, suffering from Enteric Fever, was left in Hospital at Glasgow, where disinfection of the vessel was carried out.

This vessel left a case of Small-pox at Glasgow, where re-vaccination, and disinfection of the vessel was carried out. On arrival here, the vessel was visited in the East Float; one of the Lascar crew was found to have developed the disease, and was removed by ambulance to the Port Hospital, and the bedding and effects again disinfected. The crew were kept under daily observation. A second case occurred and was removed by ambulance to the Port Hospital on the 8th of May.

The patient, a steerage passenger, was removed to private apartments for nursing.

One of the firemen was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

The patient, one of the passengers, was removed to the City Hospital, Fazakerley. Disinfected as above.

A steward, suffering from Enteric Fever, was landed at Marseilles on the homeward passage. Vessel disinfected by the ship's officers.

The patient was removed to the Fazakerley Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

Date 1911:	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
May 10	El Argentino	Buenos Ayres	Small-pox (2 cases)	New Ferry ...
May 11	Franconia ...	Boston ...	Scarlatina ..	Park Hill ...
May 11	Teutonic ..	New York ...	Measles ...	... ..
May 12	Brittany ...	Rosario ...	Enteric Fever	... ..
May 13	Franconia ...	Boston ...	Scarlatina ...	... ..
May 16	Circassia ...	Bombay ...	Enteric Fever	... ..
May 16	Lusitania ...	New York ...	Measles ...	Park Hill ...
May 17	Jerome ...	Manaos ...	Yellow Fever	Royal Southern
May 18	Dominion ...	Quebec ...	Measles	Fazakerley ...
May 19	City of York	Karachi ...	Suspected Plague	New Ferry ...
May 22	Mexican ...	Port Arthur, Texas	Enteric Fever	... ..
May 22	Ortega ...	West Coast of South America	Measles	... ..
May 25	Derbyshire ...	Pombay ...	Smallpox ...	New Ferry ...

REMARKS.

This vessel arrived in the port with a consular passenger, and the carpenter's mate, suffering from Small-pox. They were isolated in the Ship's Hospital aft, on the 28th of April. On arrival in this port, they were removed in the ship's boat to the Port Hospital, New Ferry. The vessel and bedding were disinfected, and 74 of the passengers and crew re-vaccinated.

The patient was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

The patient, being convalescent and free from infection, was allowed to proceed.

The patient, an engineer, proceeded with the vessel to Manchester, the authorities at the port being notified.

A steward, who had gone to his home at Port Sunlight, was found to be suffering from Scarlatina, and was removed to the Clatterbridge Infectious Hospital. Vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

One of the crew, suffering from Enteric Fever, was landed at Marseilles on the homeward passage. Disinfection was carried out at Marseilles.

A third-class passenger, suffering from Measles, was removed to the City Hospital, and the vessel disinfected by the Port Sanitary Officers.

The patient, a seaman, was admitted to the Royal Southern Hospital. Disinfection of the vessel carried out by the Port Sanitary Officers.

The patient was removed to Hospital, and the vessel disinfected by the Port Sanitary Officers.

One of the Lascar crew, having symptoms suspicious of Plague, was removed to the Port Hospital for observation, and the vessel and bedding disinfected by the Port Sanitary Officers. The sickness proved to be non-infectious.

The patient, a steward, was left in Hospital at Port Arthur on the homeward passage. Disinfection carried out abroad.

One of the stewards suffered from Measles on the homeward passage, but had recovered on arrival in the port.

This vessel, on arrival in the Tilbury Docks, landed one of the crew suffering from Smallpox. Disinfection of the vessel, etc., being carried out at London. A second case, that of a steward, who developed the disease on arrival in Liverpool, was removed to the Port Hospital, New Ferry.

Date 1911.	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
May 26	Cervantes ...	Buenos Ayres	Small-pox ...	New Ferry ...
May 28	Arabic ...	New York ...	Enteric Fever ...	... ..
May 30	Mauretania ...	New York ...	Enteric Fever (1 case) Measles (1 case)	... ..
June 1	Merion ...	Philadelphia	Measles ...	... ..
June 1	Orissa ..	S. American Ports	Enteric Fever	Netherfield Road
June 2	Martaban ...	Rangoon ...	Continued Fever	... ..
June 3	Castalia ...	Bombay ...	Chicken-pox	Fazakerley ...
June 11	Baltic ...	New York ...	Enteric Fever	Netherfield Road
June 16	Elysia ...	Bombay ...	Suspected Plague	New Ferry ...
June 19	Canadian ...	Boston ...	Chicken-pox	... ..
June 19	Celtic ..	New York ...	Diphtheria ...	Fazakerley ...
June 23	Mauretania ...	New York ...	Enteric Fever	... ..
June 29	Bathurst ...	West Coast of Africa	Chicken-pox	Fazakerley ...

REMARKS.

This vessel arrived in the port on the 26th of May, with the third engineer suffering from Small-pox, which disease he had contracted at Buenos Ayres. The patient, together with one contact, was removed to the Port Hospital in the ship's boat. The vessel and bedding were disinfected, and 51 of the crew and passengers re-vaccinated. There was no extension of the disease.

The patient, a saloon passenger, was removed to a private Home for Nursing, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

Both patients, saloon passengers, were removed to private Nursing Homes in the City. The vessel and bedding were disinfected by the Port Sanitary Officers and the City Staff.

The patient, a steward, was removed to his home in the City. Disinfection by Port Sanitary Officers.

The patient, one of the stewards, was removed from his home to the City Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

The patient, being convalescent and free from infection, was allowed to proceed to his home in Crosby. Disinfection carried out by the Port Sanitary Officers.

One of the Lascar crew, suffering from Chicken-pox, was removed to Hospital, and the vessel disinfected by the Port Sanitary Officers.

The patient, a cook, was removed to Hospital and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

A Lascar, having symptoms suspicious of Plague, was removed to the Port Hospital for observation, and disinfection of the vessel and bedding carried out. The sickness proved to be non-infectious.

The patient, a passenger, being convalescent, was allowed to proceed to his home in Sweden.

The patient was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

The patient, a saloon passenger, was removed to private apartments in the City, for nursing. Disinfection of the vessel and bedding was carried out by the Port Sanitary Officers and the City Staff.

One of the crew, a negro, suffering from Chicken-pox, was removed to Hospital, and the vessel disinfected by the Port Sanitary Officers.

Date 1911.	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
June 30	Teutonic ...	Montreal ...	Enteric Fever	Netherfield Road
July 5	Franconia ...	Boston ...	Measles ...	... ..
July 6	City of Benares	Karachi ...	Plague ...	... ..
July 6	Merion ..	Philadelphia	Measles	Fazakerley ...
July 7	Hortensius ...	Trinidad ...	Enteric Fever	... ..
July 7	Homereus ...	River Plate	Small-pox ...	New Ferry ...
July 10	Teutonic ...	Montreal ...	Enteric Fever (3 cases)	... ..
July 10	Baltic ...	New York ...	Measles ...	Fazakerley ...
July 13	Anthony ...	Para ...	German Measles	... ..
July 14	City of Lahore	Bombay ...	Suspected Plague	New Ferry ...
July 15	Dorset Coast	Southampton	Enteric Fever	Northern ...

REMARKS.

The patient, one of the crew, who had gone to his home in the City, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

The patient, a child, together with the parents, was removed by Taxi to its home at Manchester. Vessel disinfected by the Port Sanitary Officers.

This vessel was medically inspected on her arrival in Liverpool on May 5th, when all on board were found well. She remained at Liverpool until May 12th, during which time 49 rats were caught on board, and on bacteriological examination found free from Plague. She arrived at Glasgow on May 13th; on the 30th (i.e., 17 days after arrival) a Lascar seaman was removed to the Port Hospital, where he died on the 1st of June, the cause of death being verified as Plague. All disinfection was carried out by the authorities at Glasgow.

The patient, a child, was removed to Hospital, and the vessel disinfected by the Port Sanitary Officers.

The cook of this vessel was left in Hospital at Trinidad, suffering from Enteric Fever. Disinfection carried out abroad.

This vessel arrived in the Port with the boatswain suffering from Small-pox. He was taken in the ship's boat to the Port Hospital. Vaccination of the crew, and disinfection of the vessel and bedding, was carried out by the Port Sanitary Officers and City Staff.

Three of the crew, suffering from Enteric Fever, were left in Hospital abroad, one at Quebec and two at Montreal, on the homeward passage. Vessel disinfected at the latter port.

The patient, a child passenger, was removed to Hospital, and the vessel disinfected by the Port Sanitary Officers and the City Staff.

The patient, one of the passengers, who had recovered on arrival of the vessel in this Port, was allowed to proceed.

One of the native crew, who was suffering from symptoms suspicious of Plague, was removed to the Port Hospital, New Ferry. The sickness proved to be non-infectious.

A seaman from this vessel was admitted to the Northern Hospital with Enteric Fever. Disinfection of the vessel was carried out by the Port Sanitary Officers.

Date 1911.	Name of Vessel	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
July 20	Dominion ...	Philadelphia	Diphtheria (2 cases)	... ... ...
July 20	Flavian ...	Naples ...	Cholera ?	New Ferry ...
July 22	Olympia ...	Bombay ...	Suspected Plague	New Ferry ...
July 24	Augustine ...	Manaos ...	Yellow Fever	... ... ...
July 24	Arabic ...	New York ...	Erysipelas ...	Fazakerley ...
July 25	Commodore	Mobile ...	Enteric Fever	Netherfield Road
July 27	Ixion... ...	Java Ports	Cholera ? ...	New Ferry ...
Aug. 2	Huntsman ...	Karachi ...	Suspected Plague	New Ferry ...
Aug. 4	Yucatan ...	New Orleans	Enteric Fever	Netherfield Road
Aug. 7	Orcoma ...	Callao ...	Chicken-pox	... ... ...
Aug. 8	Commodore...	Mobile ...	Enteric Fever	Netherfield Road

REMARKS.

The patients, two passengers, were landed at Queenstown on the homeward passage. Disinfection of the vessel by the Port Sanitary Officers.

This vessel left Palermo on July 8th, four days later an A.B. was taken ill with symptoms of Cholera and was promptly isolated. On arrival at Liverpool he was convalescent and was removed to the Port Hospital in the ship's boat. The vessel was disinfected, and the names and addresses of all on board were obtained, and these were forwarded to the Districts of destination. Bacteriological examination proved negative.

A Lascar, having symptoms suspicious of Plague, was removed to the Port Hospital, New Ferry, for observation. The sickness proved to be non-infectious. Complete disinfection was carried out by the Port Sanitary Officers and City Staff.

A passenger, suffering from Yellow Fever, was landed at Para, on the homeward passage, where disinfection was carried out.

The patient was removed to Hospital and the vessel disinfected by the Port Sanitary Officers.

One of the crew, suffering from Enteric Fever, was removed to Hospital and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

This vessel arrived on the 27th of July and entered the Vittoria Dock, Birkenhead. On the following day a case of Java Fever was reported on board. The vessel was visited by the Assistant Medical Officer when a Chinese fireman was found to be suffering from Choleraic Diarrhoea, the onset of symptoms being on the previous day. He was removed to the Port Hospital and the vessel disinfected.

The patient, a Lascar seaman, was removed to the Port Hospital for observation, and the vessel and bedding disinfected by the Port Sanitary Officers. The sickness proved to be Malaria.

A seaman from this vessel, who had gone to his home in the City, was removed to the City Hospital and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

The patient, a passenger, was left at Vigo on the homeward passage.

An engineer from this vessel, who had gone to his home in the City, was removed to Hospital suffering from Enteric Fever, and the vessel and bedding disinfected by the Port Sanitary Officers and City Staff.

Date, 1911.	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
Aug. 13	Megantic ...	Montreal ...	Enteric Fever	Netherfield Road
Aug. 15	Venedotian ...	Genoa, etc.,	Suspected Cholera	New Ferry ...
Aug. 19	Henzada ..	Rangoon ...	Cerebro Spinal Meningitis	... ..
Aug. 21	Castilian Prince	Alexandria...	Small-pox ...	New Ferry ...
Aug. 31	Vivina .	Valencia ...	Enteric Fever	Brownlow Hill
Sept. 1	Rokeby ...	Calcutta ...	Small-pox (2 cases)	... ..
Sept. 6	Teutonic ...	Montreal ...	Enteric Fever	... ..
Sept. 7	Derbyshire ...	Rangoon ...	Suspected Plague	New Ferry ...

REMARKS.

The patient was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

This vessel left Marseilles on the 5th August, and the same day Fernandez Pita, who had spent the previous night ashore, was taken ill with Diarrhoea. On arrival at Valencia, on the 7th August, he was seen by the Port Medical Officer and the vessel ordered to the Quarantine Station at Port Mahon, the case being considered as one of suspected Cholera; the agents, however, directed the vessel to proceed to Liverpool. Pita was removed to the Port Hospital by boat, on arrival in Liverpool on the 15th of August. A second fireman, who was also suffering from Diarrhoea, was removed to Hospital. Disinfection was carried out by the Port Sanitary Officers. Bacteriological examination proved negative in both cases.

On arrival in the Port the Master reported the death of a Lascar whilst on the voyage round from London. The Assistant Medical Officer visited the vessel and gave instructions for the body to be removed to Ford Street Mortuary, where the cause of death was found to be cerebro-spinal meningitis. The vessel was disinfected by the Port Sanitary Officers.

This vessel, on arrival, reported that the boatswain was removed to Hospital at Malta suffering from Small-pox. He had been ashore at Alexandria and was sick for a few days, but had not been isolated on board ship. On arrival at Liverpool all were found well on medical examination. The carpenter and boatswain were removed to the Port Hospital for disinfection and observation and the infected quarters again disinfected. The names and addresses of all on board were obtained, and these were forwarded to the various authorities of the Districts to which they were going. The vessel proceeded to Manchester.

The patient, a fireman, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

An apprentice was landed at Aden, and the master at Malta, on the homeward passage, suffering from Small-pox. Disinfection was carried out at Malta and again on arrival at Liverpool. There was no extension of the disease.

The patient, one of the seamen, was landed at Montreal, where the vessel was disinfected.

One of the Lascar crew, having symptoms suspicious of Plague, was removed to Hospital, and the vessel disinfected by the Port Sanitary Officers and the City Staff. Sickness proved non-infectious.

Date 1911.	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
Sept. 14	Araby ...	River Plate...	Small-pox ...	... ..
Sept. 15	Ussa ...	Baltic Ports	Enteric Fever	Royal Infirmary
Sept. 15	Adriatic ...	New York ...	Measles ...	Park Hill ...
Sept. 18	Ortega ...	Callao ...	Small-pox ...	... ..
Sept. 22	Venango ...	Halifax ..	Enteric Fever	Fazakerley ...
Sept. 27	Mary Ellen ...	River Mersey	Erysipelas ...	Mill Road ...
Sept. 28	City of Calcutta	Karachi ...	Suspected Plague	New Ferry ...
Sept. 28	Dictator ...	New Orleans	Enteric Fever	Grafton Street
Oct. 3	Oropesa ...	Callao ...	Small-pox (6 cases)	New Ferry ...
Oct. 4	Politician ...	Calcutta ...	Enteric Fever	... ..

REMARKS.

The carpenter of this vessel was left in Hospital at London on the homeward passage, convalescing from Small-pox.

The patient, a seaman, was removed to the Royal Infirmary, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

A steward, having Measles, was removed to the City Hospital, and the vessel disinfected by the Port Sanitary Officers.

A third-class passenger was landed at Lisbon on the homeward passage, suffering from Small-pox. On arrival here all passengers and crew were examined, and found well. Disinfection was carried out by the ship's surgeon, and again by the Port Sanitary Officers.

The messroom steward, who was suffering from Enteric Fever, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

The patient was admitted to the Mill Road Infirmary.

One of the native crew, having symptoms suspicious of Plague, was removed from the Vittoria Wharf, Birkenhead, to the Port Hospital, and disinfection of the vessel carried out by the Port Sanitary Officers.

The patient was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

This vessel reported on arrival that a death from Pneumonia had occurred during the voyage, and that there were two cases of Chicken-pox on board. The supposed cases of Chicken-pox were found to be Small-pox. The names and addresses of all on board were obtained, and the passengers allowed to land. During the inspection, three other cases, and one suspected case of Small-pox were discovered, and, together with twenty-eight stewards who had been in close contact, were removed to the Port Hospital in the ship's lifeboat. All affected quarters, bedding, upholstery, and crew's effects were disinfected by the Port Sanitary Officers and the City Staff. Vaccination of the passengers and crew was carried out.

The third engineer, suffering from Enteric Fever, was left in Hospital at Port Said on the homeward passage. Disinfection carried out at Port Said.

Date, 1911.	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
Oct. 5	Franconia ...	Boston ..	Scarlatina ...	Fazakerley ...
Oct. 5	Teen kai ...	Javan Ports	Cholera ...	... ..
Oct. 9	Pegu ...	Rangoon ..	Dysentery ...	New Ferry ...
Oct. 10	Clan Leslie ...	Bombay, via Glasgow	Enteric Fever ...	... ..
Oct. 13	Bosnian ...	Patras ...	Enteric Fever	Grafton Street ..
Oct. 18	Karnak ...	Constantinople etc.,	Cholera ...	... ..

REMARKS.

The patient a steward, who had gone to his home, in Walton, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

This vessel took on Pilgrims at a number of ports in Java, where Cholera is prevalent, finally leaving Pendang on August 6th. Between August 9th and 24th twenty-two deaths occurred, mostly after a very brief sickness, of a few hours to a few days' duration. The ship's surgeon was unable to diagnose the nature of the disease. On August the 24th the vessel arrived at Camaran Island Quarantine Station, and landed 750 Pilgrims; during the 10 days' Quarantine 13 deaths occurred amongst the Pilgrims ashore. September 4th, Pilgrims and vessel disinfected. The Pilgrims were then re-embarked, and the vessel cleared at 12.30 noon, and at 1 p.m. a Pilgrim died. The Pilgrims were landed at Jeddah. September 11, arrived at Suez, the Port Doctor found Cholera Bacilli in a patient, four other suspected patients also removed to the Lazaretto, one of whom was found to have Cholera. The vessel was disinfected, and proceeded through the Suez Canal under Quarantine. No further sickness occurred from Suez homeward, but altogether 36 deaths had occurred amongst the Pilgrims, and two definite cases of Cholera amongst the crew. On arrival in Liverpool, on October 5th, the vessel was boarded, and all the crew, numbering 61, were found well.

One of the native crew, who was suffering from Dysentery, was moved in the ship's boat to the Port Hospital. Disinfection was carried out by the Port Sanitary Officers.

The patient, the second engineer, was left in Hospital at Glasgow. Disinfection was carried out at that Port.

One of the firemen, having Enteric Fever, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

On arrival at Liverpool, on October 18th, the vessel was inspected by Dr. Stallybrass, and it was discovered that three cases of Cholera had occurred during the voyage. On September 25th, five days after leaving Constantinople, E. Castro, lamp trimmer, and Chas. Fleming, second officer, were taken ill with symptoms of Cholera, The former was removed to the Quarantine Hospital at Clazomene, and the latter to the British Hospital, Smyrna. On October 29th, A. Brophy, second engineer, having symptoms suspicious of Cholera, was taken to the British Hospital, where the diagnosis was confirmed. Disinfection was performed at Clazomene. On arrival in Liverpool, all were found well, and disinfection of the vessel was carried out by the Port Sanitary Officers and the City Staff. There was no extension of the Disease.

Date 1911,	Name of Vessel.	Where from.	Nature of Sickness.	Hospital to which Patient was removed.
Oct. 20	Ardchattan	Glasgow ...	Measles .	Park Hill ...
Oct. 24	Saxonia ...	New York ..	Enteric Fever	Netherfield Road
Oct. 25	Gretavale ...	Wilmington	Enteric Fever	Grafton Street
Oct. 27	Raphael ...	Bahia Blanca	Enteric Fever	... ..
Oct. 31	Akabo ...	West Coast of Africa	Enteric Fever	Royal Southern
Oct. 31	City of London	Calcutta ...	Suspected Cholera	... ..
Nov. 1	Campania ...	New York ...	Erysipelas ..	... ..
Nov. 2	North Point	Savannah ...	Fever? ...	New Ferry ...
Nov. 2	Oravia ...	Callao ...	Enteric Fever	... ..
Nov. 7	Celtic ...	New York ...	Diphtheria	Mill Lane ...
Nov. 10	Moyune ...	Kobe ...	Small-pox ...	... ..
Nov. 10	Duke ...	Glasgow ...	Erysipelas ..	... ..
Nov. 13	Barrister ...	Texas ...	Enteric Fever	Grafton Street .
Nov. 15	Oronsa ...	Colombo ...	German Measles (1 case) Chicken-pox (1 case)	... ..

REMARKS

One of the crew, having Measles, was removed to the City Hospital, Parkhill. Disinfection being carried out by the Port Sanitary Officers.

The patient, a steward, was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

The patient was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

The cook, having Enteric Fever, was landed with his effects at Las Palmas, on the homeward passage. Disinfection by crew.

A passenger, who arrived by this vessel, and was admitted to the Royal Southern Hospital, developed Enteric Fever. Vessel disinfected by the Port Sanitary Officers.

One of the Lascar crew, suspected to be suffering from Cholera, was landed at Suez, where disinfection was carried out.

The patient, a saloon passenger, proceeded in a private car to his home in Wigan, the Medical Officer of Health of that town being notified.

Two seamen, having symptoms suspicious of Fever, were removed to the Port Hospital, and the vessel disinfected by the Port Sanitary Officers. The sickness proved to be Malarial Fever.

The patient, a passenger, being convalescent, was allowed to proceed to his home. Vessel disinfected by the Port Sanitary Officers.

A steward, who had gone to his home in the City, developed Diphtheria, and was removed to the City Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.

The patient, a Pilgrim, died at sea on the passage to Jeddah.

One of the crew of this vessel was left in Hospital at Glasgow, suffering from Erysipelas.

On the homeward passage the third officer of this vessel died from Typhoid Fever, and was buried at sea. On arrival in this port five other members of the crew were removed to Hospital. These proved to be Malarial Fever.

The patients, passengers, were landed respectively at Lisbon and Vigo, on the passage to Liverpool. Disinfection carried out by the Port Sanitary Officers.

Date 1911.	Name of Vessel.	Where from.	Nature of Sickness	Hospital to which Patient was removed.
Nov. 16	Arabic ...	New York ...	Enteric Fever	Netherfield Road
Nov. 30	Boniface ...	Galveston ...	Enteric Fever	Grafton Street
Nov. 30	Laurentic ...	Montreal ...	Enteric Fever	Grafton Street
Dec. 4	Indefatigable Training Ship	in the River	Diphtheria ...	Mill Lane ...
Dec. 6	Empress of Ireland	Quebec ...	Small-pox ...	... ..
Dec. 9	Coronation ...	Javan Ports	Cholera ...	.. ...
Dec. 13	Hesione ...	River Plate...	Enteric Fever (3 cases)	Bootle ...
Dec. 13	Campania ...	New York ...	Diphtheria ...	... ..
Dec. 19	Wanderer ...	Texas ...	Enteric Fever	... ..
Dec. 22	Indefatigable Training Ship	in the River	Erysipelas ...	Fazakerley ...
Dec. 28	Manchester City	Buenos Ayres	Enteric Fever	... ..

REMARKS.

- The patient was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.
- The boatswain of this vessel, who had gone to his home at 17, Sands Street, was removed to the City Hospital, and the vessel disinfected by the Port Sanitary Staff.
- The patient was removed to Hospital, and the vessel and bedding disinfected by the Port Sanitary Officers and the City Staff.
- One of the boys, having Diphtheria, was brought ashore in the ship's boat, and removed to the City Hospital. Disinfection was carried out by the officers of the ship.
- A third class steward, R. H. Hughes, was removed to Hospital from his home in Litherland, suffering from Small-pox. He was infected in Quebec, and developed the disease after returning to his home, but continued to work for a few days on board ship. On December 6th, when the information was received, the vessel had already sailed, and no disinfection could be carried out.
- On October 5th, whilst lying at Sourabaya, a fireman on this vessel was taken ill with symptoms of Cholera. He died on the way to Hospital on the following day. The vessel was disinfected, and the crew kept under observation for 5 days. On arrival in Liverpool, on the 9th December, all were found well. Further disinfection was carried out by the Officers of the Port Sanitary Authority.
- A seaman, having Enteric Fever, was landed at Buenos Ayres. Also another at Las Palmas, on the homeward passage. On arrival in this port the third engineer was taken to the Bootle Infectious Hospital. Vessel disinfected by Port Sanitary Officers
- The patient, a child, was landed at Queenstown. Disinfection of the vessel was performed by the ship's surgeon.
- The patient, a seaman, developed the disease after the arrival at his home in Garston. Disinfection of the vessel was carried out by the Port Sanitary Officers.
- One of the boys, having Erysipelas, was brought ashore, and removed to the City Hospital at Fazakerley. Disinfection was carried out by the ship's officers.
- The patient, the refrigerating engineer, proceeded to his home in Liscard, the Medical Officer of Health for Liscard being informed. Vessel disinfected by the Port Sanitary Officers.

Diseases incident upon Sailors.—Sanitation of Vessels.

The diseases to which sailors are peculiarly liable fall under four headings:—

- (a) Those which are caused by the peculiar stresses of the work.
- (b) Those attending the vices to which sailors in foreign ports are particularly addicted: Alcoholism and Venereal Diseases.
- (c) Tropical diseases, including Malaria, Beri-beri, &c.
- (d) Those associated with the peculiar environment of the sailor, such as damp forecastles, contaminated water supplies, and the close association of the sick with the healthy in the confined quarters on shipboard.

It is against the latter classes of disease that the efforts of the Port Sanitary Authority for improving the sanitation of vessels are directed.

The defects are classified under three headings as arising from:—

- (a) Faulty construction.
- (b) Wear and tear.
- (c) Lack of cleanliness, and nuisance.

A large number of the defects, included under the third heading, that are found on British ships, arise from the crews having been paid off and the forecastles being unoccupied. This is specially applicable to the tramp class of vessel. In the case of ships of foreign nationality, or carrying "native" crews, the crew are at the time inhabiting quarters where filth or nuisance exists.

5,336 visits to vessels were made by the Inspectors during the year. This is an increase of 486 in comparison with 1910, accountable for by the appointment of an extra Inspector in the second half of that year.

Work of the Port Sanitary Inspectors.

The area of the Port is divided into four districts, those of the North Docks, the North Central Docks, the South Docks, and the outlying districts comprising Birkenhead and Garston. These are each in charge of an Inspector who is fully qualified, both by examination and for the most part by previous sea-going experience. These visit all vessels lying within their district to examine into their sanitary state and also to enquire concerning the health of those on board, and as to the occurrence of sickness during the voyage, particularly stringent enquiries being

made in the case of all vessels from ports where Plague, Cholera or Smallpox are prevalent. Enquiries are also made as to the occurrence of sickness or mortality amongst the rats on vessels from plague-infected ports

The Inspectors report daily to the Assistant Port Medical Officer, and vessels have frequently to be visited in the docks on both sides of the Mersey owing to reports thus received from the Inspectors.

INSPECTION OF SHIPPING.

Year ending 1911.

TABLE 7.

The following Table indicates the number of visits paid to vessels by the Inspectors during the year :—

Nationality.	Visits.	Re-visits.	Total.
British	3,561	1,188	4,749
Norwegian	173	31	204
Swedish	28	6	34
Spanish	108	63	171
Danish	20	5	25
Chilian	1	1	2
German	47	12	59
Italian	3	3	6
Belgian	3	—	3
Russian	16	7	23
French	18	6	24
Dutch	13	1	14
Greek	10	6	16
Austrian	4	1	5
Brazilian	1	—	1
	<u>4,006</u>	<u>1,330</u>	<u>5,336</u>

SUMMARY OF INSANITARY CONDITIONS.

TABLE 8.

Class of Vessels.	Number Inspected.	Number on which nuisances were found.	Per cent.
FOREIGN—			
Steamers	2,553	963	37·72
Sailing	52	22	42·30
Total... ..	2,605	985	37·81
COASTWISE—			
Steamers	1,124	159	14·14
Sailing	277	69	24·90
Total... ..	1,401	228	16·27

Nationality.	Number Inspected.	Number on which Nuisances were found.
British	3,561	1,069
Foreign	445	144
	1,006	1,213

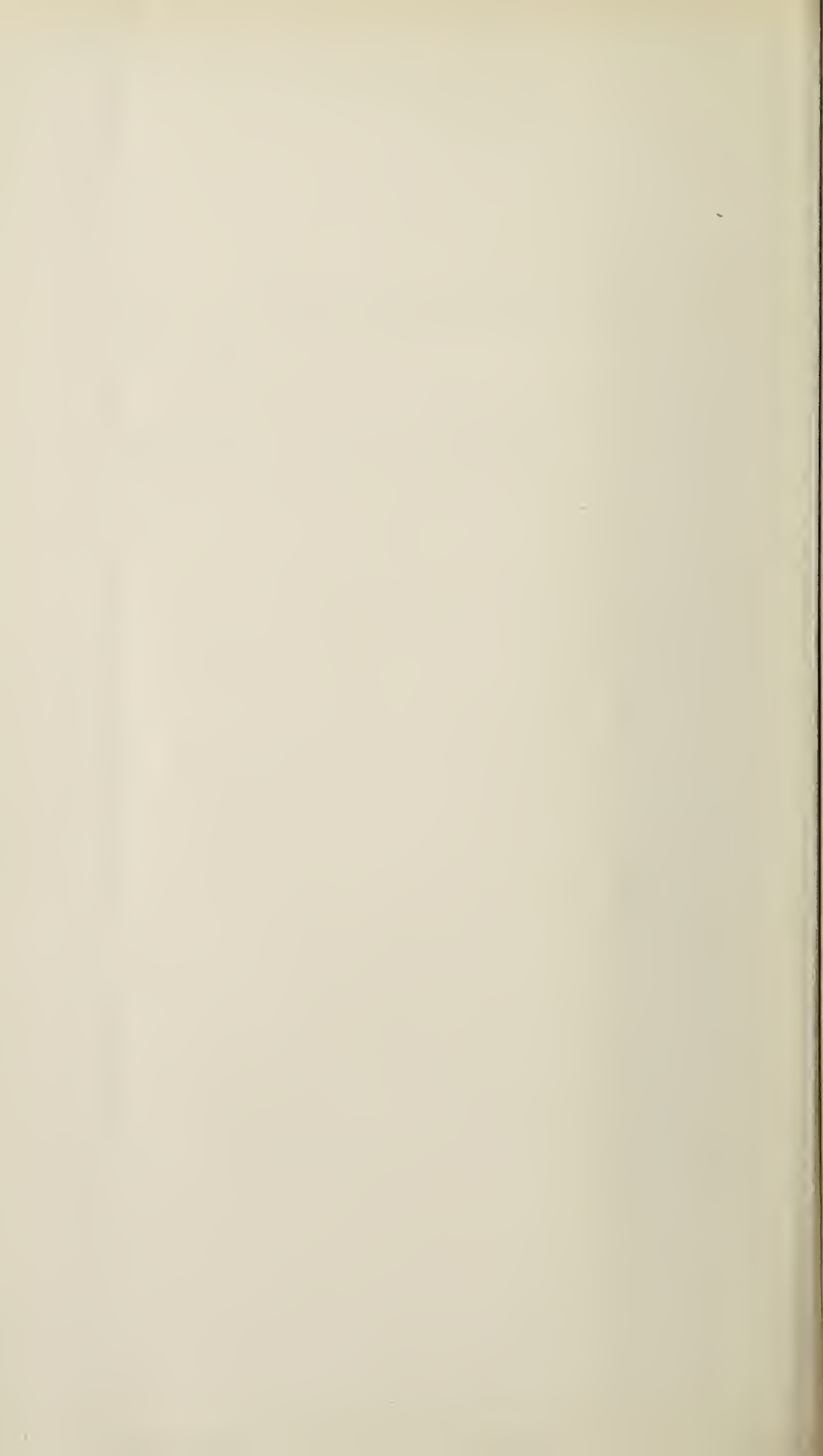
Nuisances arising through

Defects of Original Construction.	Per cent. of Total Defects.	Structural Defects through wear and tear.	Per cent. of Total Defects.	Dirt, and other conditions prejudicial to health.	Per cent. of Total Defects.
33	0·90	368	10·12	3,236	88·97

TABLE 9.

THE FOLLOWING TABLE SHOWS THE NUMBER AND NATIONALITIES OF THE VESSELS ON WHICH DEFECTS
WERE DETECTED DURING THE YEAR 1911.

NATIONALITY.	Number of Ships.	Dirty Forecables.	Dirty Wash-houses, Store-houses, etc.	Foul Water Casks.	Foul Bilges.	Foul W.C's.	Accumulations of offensive refuse.	Gear stowed in Crew's Quarters.	Damp Quarters.	Water lodging on top of Forepeak Tank.	Animals kept causing nuisance.	Leaky Decks overhead.	Defective Stoves.	Defective Bulkheads.	Defective Ports and Sky-lights.	Defective Ventilators.	Defective Flooring Boards.	Defective Hatches and Lockers.	Defective Chain Pipes.	Defective Hawse Pipes.	Defective W.C. Fittings.	Defective Soft Pipes.	Inadequate Ventilation.	Inadequate Lighting.	Inadequate Drainage.	Bare Iron not Sheathed.	W.C.'s deficient in ventilation and situation bad.	Total number of Defects.	Total Remedied.
British ...	1069	2051	109	51	7	602	36	8	12	9	3	61	17	12	184	7	6	5	12	15	22	8	7	2	5	14	2	3267	2490
Norwegian ...	35	63	1	2	...	31	...	...	...	...	...	1	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	99	77
Swedish ...	9	17	2	2	...	8	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	30	28
Spanish ...	53	83	...	...	...	35	2	...	4	...	...	5	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	130	93
Danish ...	5	4	...	...	...	4	1	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	12	7
German ...	16	18	1	1	2	10	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	3	...	...	...	...	36	23
Italian ...	3	4	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9	8
Russian ...	8	8	...	3	...	5	...	...	...	...	...	...	...	...	3	...	...	...	...	...	1	...	...	...	...	...	...	20	15
French ...	3	3	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	6
Greek ...	8	14	..	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	19	12
Chilian ...	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	2	2
Austrian ...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
Dutch ...	2	2	...	...	...	1	...	...	...	...	...	...	...	...	1	...	...	...	2	...	...	...	...	...	...	...	...	6	6
Total ...	1213	2270	113	59	9	709	40	8	16	9	3	67	17	12	193	7	6	5	14	15	23	9	10	2	5	14	2	3637	2768



Canal Boats.

The Port Sanitary Inspectors have been appointed Canal Boat Inspectors, under the Canal Boat Acts of 1877 and 1884. This is rendered necessary by the large number of Canal Boats which are to be found lying in the Liverpool Docks. By rotation one Inspector devotes one day per week for a period of five months at a time, as it has been found that in this way it is easier to follow up any boat that may be defective. These boats are for the most part kept in very good repair.

Contraventions of the Acts, and of the regulations made under them, include failure to register the boat; failure to have the boat clearly marked with the registered number or to produce the certificate of registration on demand; failure to keep the cabins or water-casks in good order or repair; carrying offensive cargoes insufficiently separated from the cabins; overcrowding or improper habitation; and failure to notify infectious disease.

795 boats were inspected during the year, of which number 54 were found to have some condition contravening the regulations.

Special Visits.

In addition to the daily routine inspection of the sanitation of vessels, special visits require to be made to many vessels on report of sickness; smallpox contacts have also to be kept under daily observation. Disinfection has to be carried out or supervised on all vessels which have had cases of actual or suspected infectious disease. 146 vessels were disinfected during the year, in some cases extensive precautions being required. The Inspectors also supervise the fumigation of the holds of vessels for the destruction of rats, when certificates of such fumigation are required by foreign sanitary authorities.

The whole time of one Inspector has been occupied in supervising the landing of cattle from coastwise cattle boats, under the provisions of the Diseases of Animals Acts, to which duties they have been specially appointed.

TABLE 10.

RETURN OF THE NUMBERS OF CATTLE, SHEEP AND SWINE
EXPORTED FROM IRELAND TO LIVERPOOL DURING
THE YEAR 1911, SHOWING THE PORTS IN IRELAND AT
WHICH THE ANIMALS WERE SHIPPED.

	Cattle.	Sheep.	Swine.
Belfast	3,624	9,227	763
Cork	17,722	12,368	9,828
Drogheda	24,884	24,111	4,052
Dublin	87,527	137,067	34,649
Dundalk	19,056	25,278	21,172
Londonderry	4,117	8,104	360
Newry	2,242	9,114	1,015
Sligo	30	8,281	12,047
Waterford	16,962	40,671	10,092
Westport	695	9,891	4,958
Wexford	1,987	16,708	2,301
Total	178,846	300,820	101,237

TABLE 11.

SHOWING THE TOTAL NUMBERS OF THE SEVERAL KINDS
OF CATTLE, SHEEP AND SWINE EXPORTED FROM
IRELAND TO LIVERPOOL, DURING THE YEAR 1910.

CATTLE.	No.	SHEEP.	No.
Fat	96,921	Fat	152,722
Stores (for fattening)	54,915	Stores	1,363
Milch Cows	18,682	Lambs	146,735
Springers	3,954		
Other Cattle	1,927	Total Sheep	300,820
Calves	2,447		
Total Cattle	178,846	SWINE.	
		Fat	97,287
		Stores	3,950
		Total Swine	101,237

The Aliens Act, 1905.

An "immigrant" ship (i.e., a ship bringing more than 20 alien steerage passengers to be landed in the United Kingdom) may not land these passengers at other than immigration ports at which Immigration Officers and Medical Inspectors have been appointed and Immigration Boards have been established.

The immigration Ports are:—Cardiff, Dover, Folkestone, Grangemouth, Grimsby, Harwich, Hull, Leith, Liverpool, London (including Queenborough), Newhaven, Southampton, and the Tyne Ports.

An alien shall be considered to be an "undesirable" according to section 1 (3) of the above Act:—

- (a) If he cannot show that (a) he has in his possession or (b) is in a position to obtain the means of decently supporting himself and his dependents (if any); or
- (b) If he is a lunatic or an idiot, or owing to any disease or infirmity appears likely to become a charge upon the rates or otherwise a detriment to the public; or
- (c) If he has been sentenced in a foreign country, with which there is an extradition treaty, for a crime, not being an offence of a political character, which is, as respects that country, an extradition crime within the meaning of the Extradition Act, 1870; or
- (d) If an expulsion order under this Act has been made in his case; but in the case of an immigrant who proves that he is seeking admission to the country solely to avoid prosecution or punishment on religious or political grounds or for an offence of a political character, or persecution, involving danger of imprisonment or danger to life and limb on account of religious belief, leave to land shall not be refused on the ground merely of want of means, or the probability of his becoming a charge on the rates.

Supervision of Food Importations.

The Unsound Food and Foreign Meat Regulations which came into operation in 1908 imposed additional obligations on the Port Sanitary Authority of a very important character, namely, the duty of supervising the importations of meat and other foods, as to the presence of disease or other conditions rendering them unsound or unwholesome.

This work has been carried out during the past three years by the Officers of the Liverpool Port Sanitary Authority. It has called for the exercise of considerable tact in dealing with these importations, many of which are of considerable magnitude.

The inspection of imported foods is carried out not only in the docks on the Liverpool side of the Mersey, but also in Birkenhead and at Garston, where certain new docks belonging to the London & North-Western Railway Company have been recently opened and where a new trade in bananas has been inaugurated by Messrs. Elders and Fyffe.

The docks on both sides of the Mersey are within the jurisdiction of the Port Sanitary Authority, and all food stuffs landed from vessels have to be supervised under the above Food Regulations.

The year 1911 has been an exceedingly busy one, and the amount of meat condemned has been very large and far in advance of 1909 and 1910.

Large quantities of Australian beef required close inspection owing to the presence of a disfiguring though harmless parasite (see page 61). Several large importations of Chinese and other pigs gave increased work to the inspectors. To cope with this increased work an additional inspector was appointed by the Authority in March, 1911, the appointment being subsequently sanctioned by the Local Government Board.

Meat Importations.

The importation of frozen and chilled meats still continues to reach a huge figure. The importations of mutton and lamb into the United Kingdom during 1911 amounted to 12,960,383 carcasses, and of frozen beef 2,210,634 quarters. The importations of chilled beef from the United States have decreased very greatly, the importations only amounted to 8,717 tons, as compared with 23,858 tons in 1910 and 42,840 tons in 1909. The deficiency has been more than made up from

the Argentine. The year's importations from the latter source amounted to 187,657 tons, representing 95·5 per cent. of the total chilled beef imports into the United Kingdom from all sources.

The routine practice adopted by the food inspectors in the examination of food stuffs and meat has been detailed in previous reports; shortly it is as follows. The inspection is carried out after the goods have been landed on the dock quays. Under the Foreign Meat Regulations the valuable co-operation of the Examining Officers of H.M. Customs has been obtained. These officers detain certain classes of meat for examination: and in addition, from their close association with imported goods for revenue purposes, they keep the Authority informed as to the character of goods landed in the docks.

The inspector examines by inspecting portions of the various consignments landed, and for this purpose he can require packages to be opened and the contents exposed for his inspection. If on a preliminary sampling a certain degree of unsoundness is discovered, examination of further portions may be necessary.

If a further examination of frozen or chilled meats become necessary, permission is given to have the goods removed to the numerous cold stores situated in the immediate vicinity of the docks, where the consignments are detained and sorted under the supervision of the food inspectors.

Frequent cross references pass between the food inspectors of the Port and City of Liverpool, thereby saving much time, and valuable information is obtained on both sides regarding the character of various consignments of food. Fruit, fish, &c., are frequently allowed for business and other reasons to pass, after preliminary examination, to the market and warehouses to be sorted.

The term "frozen" beef is applied to beef carried at the low temperature of 10°-15° Fahrenheit, arriving here perfectly hard and requiring to be thawed out before it can be used (mutton and lamb are always carried in a frozen condition).

The term "chilled" beef is applied to beef carried at a temperature of 29°-30° Fahrenheit, and arriving here soft and ready for immediate consumption.

The following table shows the ports in the United Kingdom at which importations of frozen and chilled meats from Australia, New Zealand and South America were discharged during 1911:—

TABLE 12.

TABLE SHEWING THE PORTS IN THE UNITED KINGDOM AT WHICH THE IMPORTATIONS FROM AUSTRALIA, NEW ZEALAND AND SOUTH AMERICA WERE DISCHARGED DURING 1911.

PORT OF DISCHARGE.	AUSTRALIA.			NEW ZEALAND.			SOUTH AMERICA.			
	Mutton Carcases.	Lamb Carcases.	Beef Quarters.	Mutton Carcases.	Lamb Carcases.	Beef Quarters.	Mutton Carcases.	Lamb Carcases.	Beef. Frozen Quarters.	Chilled Quarters.
London ...	1,141,511	1,189,061	206,055*	1,728,355	2,785,102	113,763†	870,494	255,809	304,929	1,203,056
Liverpool ...	785,964	405,732	308,569	38,038	502,181	27,441	1,684,792	716,167	873,287	520,074
Southampton ...	—	—	—	—	—	—	144,069	59,417	107,668‡	423,374
Cardiff ...	20,830	26,282	3,734	—	—	—	104,175	14,779	57,022	1,590
Hull ...	—	—	—	—	—	—	104,538	10,003	80,776	221
Newcastle ...	—	—	—	—	—	—	100,258	8,536	68,432	1,002
Bristol ...	7,598	29,156	501	11,182	108,694	958	28,456	—	17,505	—
Glasgow ...	6,145	—	2,523	17,684	31,259	23,384	—	—	—	—
Cork ...	—	—	—	—	—	—	17,460	401	11,372	76
Plymouth ...	—	—	—	—	—	—	4,701	1,554	2,715	1,777
Totals ...	1,962,048	1,650,231	521,382*	1,795,259	3,427,236	165,546†	3,058,943	1,066,666	1,523,706‡	2,151,170

N.B.—The bulk of the year's importations of River Plate Chilled Beef discharged at Southampton and Liverpool was forwarded by rail to London for realisation.

* Including 1,309 qrs. chilled.

† Including 72 qrs. chilled.

‡ Including 858 qrs. chilled from Venezuela.

TABLE 13.

SHOWING THE IMPORTS OF MEATS (EXCEPT
POULTRY AND GAME) INTO THE PORT OF LIVERPOOL
DURING THE YEARS, 1910 AND 1911.

Description.	Years.	
	1910.	1911.
	£	£
Bacon	4,102,268	Figures not available.
Beef, fresh and refrigerated ...	4,509,781	
Beef, salted... ..	91 296	
Hams	1,632,223	
Mutton, fresh and refrigerated ...	2,617,420	
Pork, fresh and refrigerated ...	102,846	
Pork, salted... ..	61,603	
Rabbits	298,753	
Unenumerated fresh, refrigerated and salted	456,440	
Preserved, otherwise than by salting	514,447	
Totals... ..	£14,387,077	—

Nodules in Australian Beef.

The importations of Australian beef from Queensland and New South Wales have reached a total of 308,509 quarters during the year. The presence of nodules of *Onchocerca gibsoni* has been much less evident than formerly.

The regulations regarding the cutting off of the brisket from the fore-quarter and the exportation only of such "crops" has reduced the amount of inspection work which our inspectors have been called upon to do.

The continued presence of a few isolated nodules of small size, which are usually deep seated, in the hind quarters still renders a closer examination of these parts desirable. Although it was the practice at this port during 1910 to release any consignments which showed less than 5 per cent. affected, yet of late, owing to the continued presence of the nodule chiefly about the stifle or knee joint, a few of the consignments which are known to show a large percentage affected, namely, such brands as Q.M.E., Burdekin, &c., have been placed in store for examination of the entire consignments.

The following instructions regarding the inspection of meat for verminous nodules have been recently issued to the meat inspectors of the Australian Commonwealth:—

"WORM NESTS IN CATTLE.—After freedom from other diseases have been proved, the carcase—other than the briskets—is to be examined specially for worm nests, which if found, and if superficial and few in number, are to be removed; if numerous or scattered the carcase is to be condemned. In the hindquarters the nodules are to be specially looked for, and near the outer side of the stifle joint; occasionally they are to be found well back on the outer surface. In the forequarters nodules must be specially looked for at the lower edge of the *latissimus dorsi*, but other parts must also receive attention.

"The briskets are to be removed from all carcasses. The cut is to be made from the reflexion of the diaphragm on to the eleventh rib, upwards in a line parallel to the edge of the back or quarter.

"The separation of the brisket must not be effected until the carcase has set.

"The brisket is to be examined by the inspector subsequently by careful slicing. Any brisket (from a carcase otherwise free from disease) may, if found free from worm nodules, be preserved (corned or canned) under supervision.

"No affected briskets are to be used for canning or corning for export."

Every facility has been afforded by importers of meat to enable our inspectors to cope with the large number of quarters in store. They have supplied large numbers of men to assist in the handling and cutting of the quarters, thereby very materially expediting the work of inspection. During the year the meat inspectors, with the assistance of meat importers, have supervised the following:—

Fore Quarters.			Hind Quarters.		
Number examined in cold stores.	Number affected.	Percentage affected.	Number examined in cold stores.	Number affected.	Percentage affected.
46,848	16,870	36	27,487	5,458	17·9

These figures do not, of course, include “crops” from which the affected briskets have been removed, nor do they include a large number of consignments which have been shown to be affected in only a small percentage of cases, and which have been allowed to pass after a 10 per cent. examination direct from the quays.

These figures will give those who are unacquainted with the character and magnitude of these imports an idea of the strain this work has thrown on the resources of the port food staff.

It is obviously unreasonable and impossible with the staff at command to examine minutely every individual portion of this beef and to guarantee that it is free from nodules, and we are of opinion that the inspection as carried out in this port is, on the whole, very efficient.

Frozen Pork.

The importation of foreign frozen pork has not been on such a large scale as during 1910, still, very large quantities have been imported during the year.

From China two vessels arrived, s.s. “Count Muravieff” in February and s.s. “Brodstone” in May, bringing 21,095 carcases. The character of the pork, as regards quality, condition and facilities for examination, had been much improved.

The Local Government Board instructed Dr. Farrar, who happened to be a member of the Chinese Plague Commission, to visit and make enquiries into the export of Chinese pork and Siberian bacon to England. At the present time, pork is only exported from two places in China, viz., from Hankow and from Harbin in Manchuria. The pigs from Hankow are almost exclusively of the Huanese breed. The factory of the International Export Co., Ltd., was visited, and enquiries made into the methods of slaughter and inspection.

Dr. Farrar also visited Changsha and other places on the Yang-tze River where the pigs are bought, and ascertained the conditions of feeding and rearing.

Dr. Farrar in his report says:—

“Pork is the staple food of the Chinese. The pork that I have seen exposed in native shops has been nearly always good fat meat, whereas the scavenger pigs, of which one or two may be seen in most villages, are lean and skinny animals, with pendulous bellies that tell of the unsatisfying nature of the food.”

“As regards the liability of the Chinese to parasitic diseases, I could find no evidence to justify the belief that such diseases occur more commonly in Chinese than in English pigs. The testimony of medical men practising amongst the Chinese is to the effect that trichinosis is extremely rare in China, and practically unknown in the Yang-tze valley. *Cysticercus cellulosæ* and other parasites are uncommon.”

The carcasses landed in Liverpool were in all cases carefully examined for the various diseases likely to affect pork.

A large quantity of pork which was landed from previous shipments during 1910 and placed in cold stores have been examined during the year. The condemnation of carcasses as unsound numbered 665; the greater part of the rejections were on account of decomposition, whilst the remainder were affected with disease. Carcasses have also been landed from Australia, New Zealand and United States, but very little disease has been found among them.

Various Meats, &c.

The inspection of imported offal and boxed meats occupies a large part of the inspectors' time. Improvements in the packing of offal have much facilitated this work, but a considerable amount of diseased offal, chiefly livers affected with cysts, is still imported from South America and Australia.

Frozen boned boxed meat is still imported, and the expectations held out last year have not yet been realised and large quantities still come in in an objectionable form, chiefly from South America and Australia; the separate cuts, *e.g.* plates, chucks, &c., are packed into boxes soft and frozen hard, so that it is impossible to examine them satisfactorily without thawing them out, thereby causing unnecessary expense. This practice of thawing out has been adopted at all those ports where these frozen goods are imported.

The pickled meats which have received attention during the year have been those from the United States. At Liverpool consignments of mess beef have been imported with the lining membrane of the chest cavity removed or "stripped" from a large percentage of the consignments. The importers were duly notified; they explained the circumstances under which "stripping" takes place, and stated that it was not done with the intention of concealing disease. As this stripping is in contravention of the Foreign Meat Regulations, the consignments were sorted and the "stripped" portions exported.

Glandless pigs' tongues are still imported, and in many cases where the percentage has not been high, those without glands have been sorted out and exported. The number of tubercular pigs' tongues from the United States which have been found on inspection of consignments has been exceedingly small, a very small percentage; in addition, the nodules found were usually very small pin-point foci in the sublingual glands which had frequently become calcified.

Inedible fats from the United States have been imported in the usual quantities, and importers have usually been allowed to send them to recognised firms of repute for soap making purposes.

The examination by the Analyst and Bacteriologist of canned goods for metallic and other contaminations has been attended to; such articles

as milk, oysters, mussels, pineapple chunks, French beans, egg yolk and pigs' casings have received special attention in this respect.

The reports of the Analysts do not call for any comment with the exception of some samples of mussels taken from consignments from Ireland. Many of these were found to be seriously contaminated with sewage, and the danger of enteric fever arising from the consumption of such shell fish is a very real one.

The Medical Officer notified the Authorities concerned, and also the Irish Local Government Board. One consignment of mussels which was held up on the quays for examination was found to be seriously contaminated with sewage, was condemned by a Magistrate's order and destroyed. Legislation is obviously required to prohibit the gathering of shellfish from layings which are found to be contaminated with sewage; by this means the public would have some safeguard against disease and the trade in a wholesome food product would not be interfered with.

The subject of the presence of preservatives in milk and cream has been under consideration for a long time, and the Local Government Board has now issued a set of draft regulations dealing with this subject which will interest importers of these products. The regulations will come into force on June 1st, 1912, and the powers and duties in connection with the carrying out of the Regulations are vested in the Officers of Customs and Excise as far as the importation of these products is concerned. As far as they affect the import of milk and cream, the following restrictions have been enforced:—

PART III.

Article VIII.—No person shall import into England or Wales:—

- (a) any foreign milk to which any preservative substance has been added;
- (b) any foreign cream to which any thickening substance has been added;
- (c) any foreign cream containing less than 40 per cent. by weight of milk fat to which any preservative substance has been added;

(d) any foreign cream containing 40 per cent. or more by weight of milk fat to which has been added any preservative substance other than—

(i) boric acid, borax or a mixture of those preservative substances; or

(ii) hydrogen peroxide in amount not exceeding 0·1 per cent. by weight;

(e) any foreign preserved cream which is not contained in a vessel or receptacle duly labelled in the manner prescribed in the Schedule to these Regulations.

Numerous samples of brines were examined during the year for the presence of prohibited preservatives.

The fruit trade of Liverpool is very extensive, and the importations have reached very high figures.

In the Garston District of Liverpool a new business has been inaugurated by Messrs. Elders and Fyffes, whose large fruit steamers arrive weekly with large quantities of green bananas and other fruits in season.

The quantity of damaged and unsound fruit dealt with in the port reached the high figure of 566 tons; in addition, considerable quantities were condemned by the food inspectors of the City.

The following is the classification of oranges and apples adopted by the Liverpool Fruit Brokers' Association in sorting out consignments for sale purposes:—

CLASSIFICATION OF FRUIT.

ORANGES.

Chalk	I.— 2% or 8 bad oranges in case of 420, or 14 in case of 714.							
,,	II.— 5% „ 20 „ „ „ 35 „ „							
,,	III.—10% „ 40 „ „ „ 70 „ „							
,,	X.—25% „100 „ „ „ 170 „ „							
,,	XX.—50% „200 „ „ „ 350 „ „							

Wasty.—All above 50%.

APPLES.

Tight.—Applies to all full and sound barrels or boxes.

Slack, I.—Applies to all short and dry barrels or boxes.

Wet, II.—Applies to all partly decomposed barrels or boxes.

Slack and Wet, III.—Applies to all partly decomposed barrels or boxes.

IV.—Worthless.

This classification is utilised by the food inspectors to guide them as to the character and as to the soundness of goods. If the consignment shows a high percentage of unsoundness the cases are detained on the quay to be subsequently sorted before they are released. When the percentage of unsoundness is small the goods are allowed to be transferred to market stores, where a further sorting may be necessary under the supervision of the city inspectors.

During the year 1911 there were 1,567 certificates of release granted to Custom Officers and importers of meat consignments in respect of goods detained for examination on the quays.

Notices to export goods of undesirable nature, or where they did not comply with the Foreign Meat Regulations, were issued in 42 cases.

The great bulk of meat and offal condemned as unfit for food is not absolutely destroyed; it is allowed to be removed under suitable guarantees to be dealt with for industrial purposes, such as tallow rendering, soap making, manure manufacture, &c. The Medical Officer, through his inspectors, satisfies himself that the goods have been satisfactorily disposed of. During the year 633 certificates of destruction or industrial utilisation have been granted at the request of owners or Officers of Customs.

The total condemnation of meats and offal during 1911 has been very high, and has far exceeded the amount condemned for 1909 and 1910.

This may be attributed to the large number of damaged cargoes which have been brought into the port.

	MEAT.											
	1909.				1910.				1911.			
	Tons.	cwts.	qrs.	lbs.	Tons.	cwts.	qrs.	lbs.	Tons.	cwts.	qrs.	lbs.
Beef	60	11	0	14	381	11	0	5	659	10	2	24
Mutton and Lamb	27	17	0	9	15	3	1	26	18	7	0	13
Pork	1	12	0	15	54	3	3	27	65	4	2	20

OFFAL.			
	1909.	1910.	1911.
Beef	10,667 pieces.	13,388 pieces.	32,816 pieces.
Mutton and Lamb	10,758 „	28,319 „	56,596 „
Pork	1,252 „	13,845 „	8,629 „
Veal	10 „	44 „	1,070 „

The following tables represent the amounts of condemned meats and offal and other food imports which have been destroyed or otherwise dealt with to the satisfaction of the Medical Officer of Health.

The figures indicate that the amount of unsound food and meats dealt with has been very much larger than that previously recorded.

TABLE SHOWING QUANTITIES OF GENERAL FOOD STUFFS
CONDEMNED DURING THE YEAR 1911.

TABLE 14.

Description.	No. of Tins.	Pounds Weight.	Description.	No. of Tins.	Pounds Weight.
Canned Goods—					
Apricots ...	1,281	3,371	Brawn ...	278	1,309
Black Currant Pulp ...	1	7	Pigs Feet ...	23	46
Peaches ...	494	1,217	Beef ...	1,240	7,383
Fruit (mixed)...	4,099	10,191	Mutton ...	680	5,060
Pears ...	4,572	4,806	Cray Fish ...	1,215	599
Pine Apples ...	528	694	Lobsters ...	4,020	2,902
Raspberries ...	16	16	Salmon ...	8,943	8,495
Apples ...	284	2,804	Sardines ...	93	157
Greengages ...	2,839	2,845	Fig Pulp ...	29	290
Tomatoes ...	6,650	14,434	Pork and Beans	1	$\frac{1}{2}$
Tongues (lunch)	8	16	Milk ...	1,176	1,016
do. (sheep)	424	464	Rabbits ...	183	366

TABLE 14—*continued.*

Description.	Packages	Weight.				Description.	Packages	Weight.			
		Tons.	Cw's	Qrs.	lbs.			Tons.	Cw's	Qrs.	lbs.
Fruit (Fresh)—						Vegetables—					
Pine Apples ...	113	2	10	—	14	Potatoes	412	19	14	1	—
„ ...	loose	—	3	3	26	„	loose	9	4	2	22
Melons.....	2396	59	1	—	6	Onions.....	2425	117	6	3	23
„	loose	5	6	—	—	Cereals—					
Bananas	7923	—	—	—	—	Wheat	bulk	1607	12	1	25
Tomatoes	548	4	9	1	26	Rice	bulk	20	16	2	18
Oranges	1386	73	8	3	20	Oatmeal	445	27	16	1	—
„	loose	318	12	3	12	Flour	1729	132	16	—	8
Apples	713	27	10	—	1	Corn Flour ...	872	46	14	1	4
„	loose	1	11	1	6	Maize	5	—	11	1	12
Lemons	290	8	0	2	22	General—					
„	loose	1	10	2	0	Fish	19	1	4	2	16
Grapes.....	308	5	10	1	21	Rabbits	39	1	2	3	16
„	loose	—	—	3	1	„	loose	—	—	1	20
Pears	1093	25	18	2	26	Cheese	18	—	7	2	20
Pomegranates	76	2	17	2	20	„	loose	—	3	—	12
Grape Fruit ...	9	—	2	—	1	Bacon	169	44	6	2	13
Cocoa Nuts ...	505	25	2	—	20	„	loose	3	5	1	20
„ ...	loose	—	18	—	—	Hams	154	41	1	3	2
Fruit (Dried)—						„	loose	—	7	2	25
Raisins	402	3	8	3	10	Cocoa	70	3	15	2	14
Vegetables—						„	loose	—	—	2	19
Turnips	380	12	18	2	20	Ginger	loose	2	5	2	10
						Biscuits	10	—	4	2	26

TABLE SHOWING THE QUANTITY AND DESCRIPTION OF OFFAL CONDEMNED DURING
THE YEAR 1911.

TABLE 15.

Name of Organ.	Beef.		Mutton.		Pork.		Veal.	
	Number.	Weight, Pounds.	Number.	Weight, Pounds.	Number.	Weight, Pounds.	Number.	Weight, Pounds.
Heads	—	—	—	—	4,070	48,818	—	—
Cheeks	3,503	15,755	—	—	—	—	—	—
Tongues	275	1,715	—	—	166	185	1	3
Lungs... ..	—	—	319	200	—	—	2	1
Plucks... ..	—	—	5,913	13,751	1	6	29	139
Sweetbreads	700	350	—	—	—	—	—	—
Hearts	6,223	29,720	15,379	6,938	2,340	1,170	—	—
Livers... ..	12,434	147,453	3,063	3,534	672	2,016	1,038	3,156
Bellies	467	6,989	—	—	—	—	—	—
Chitterlings	—	—	—	—	650	1,000	—	—
Kidneys	8,893	8,812	31,922	3,791	6	3	—	—
Udders	123	450	—	—	—	—	—	—
Feet	—	—	—	—	754	438	—	—
Tails	198	399	—	—	—	—	—	—
Totals	32,816	211,643	56,596	28,214	8,659	53,636	1,070	3,299

•The majority of this number consisted of pickled heads of Continental and other origin which were decomposed.

The organs dealt with above were rejected for various reasons, notably, decomposition and diseased conditions, such as Cysts, Tuberculosis, Inflammation, &c.

TABLE SHOWING THE QUANTITY AND DESCRIPTION OF MEATS CONDEMNED *
DURING THE YEAR 1911.

TABLE 16.

DESCRIPTION.	CAUSE OF DESTRUCTION.															
	Tubercular.				Brine Stained, Mouldy and Decomposed.				Other causes. (Emaciation, Dropsy and Pleurisy).							
	Tons	cwts.	qrs.	lbs.	Tons	cwts.	qrs.	lbs.	Tons	cwts.	qrs.	lbs.				
Beef	659	10	2	24	1	10	1	1	649	17	0	27	8	3	0	24
Mutton.....	18	7	0	13			—		18	6	3	8	0	0	1	5
Pork	65	4	2	20	13	14	2	0	40	7	3	20	11	2	1	0
Total.....	743	2	2	1	15	4	3	1	708	11	3	27	19	5	3	1

* These were destroyed or allowed to go for industrial purposes to the satisfaction of the Medical Officer.

Included in the above weights were 5,700 quarters Beef, 601 carcasses Mutton, and 665 carcasses Pork.

TABLE 17.

Shewing comparative Value of the more important Food Stuffs imported at the principal Ports during the year 1910.

	London. 1	Liverpool. 2	Hull. 3	Harwich. 4	South- ampton. 5	Bristol. 6	Leith. 7	Manchester 8	Glasgow. 9	Newcastle. 10
	£	£	£	£	£	£	£	£	£	£
Animals	1,866,197	1,619,187	—	50,467	45,940	—	—	305,210	191,984	—
Butter	8,018,308	204,617	3,303,743	1,455,211	2,081,609	60,799	2,554,559	686	3,446	2,225,259
Cheese	3,577,100	1,141,834	119,559	93,283	132,387	981,394	183,287	171,680	173,110	35,016
Cocoa	1,279,976	344,202	—	248,435	503,576	109,191	—	—	—	—
Coffee	—	—	—	—	—	—	—	—	—	—
Grain	17,220,763	16,101,107	9,895,771	68,180	600,772	5,117,857	2,649,403	3,795,285	4,248,663	1,352,991
Eggs	2,182,464	158,674	1,389,998	1,162,790	169,749	14,498	1,021,550	25,077	795	363,385
Fish	1,304,688	1,653,443	690,707	104,265	41,268	—	64,369	—	—	117,162
Fruit	5,684,311	4,135,791	611,921	70,081	529,611	732,472	47,164	907,378	644,524	182,071
Lard	1,177,695	1,738,335	537,839	—	62,941	269,636	12,041	882,991	184,556	3,440
Margarine	340,202	345,976	1,017,955	708,931	—	—	129,664	75,887	25,171	72,327
MEAT:—										
Bacon	1,379,038	4,102,268	1,072,544	4,571,538	484,603	189,024	55,555	94,959	405,988	441,469
Beef, Fresh	4,808,980	4,418,445	192,064	100,206	1,781,405	—	—	—	140,952	106,495
„ Salted	—	91,296	—	—	—	—	—	75,347	—	—
Hams	285,614	1,632,223	57,473	—	26,070	28,429	—	—	—	—
Mutton, Fresh	6,488,353	2,615,890	83,488	238,732	82,769	74,636	—	—	—	69,851
Pork, Fresh	—	102,846	—	164,992	30,345	—	107,691	—	—	—
„ Salted	840,307	61,603	—	—	—	—	—	—	—	25,195
Rabbits	505,958	298,751	—	17,165	—	—	—	—	—	—
Unenumerated	514,516	456,442	77,950	227,855	—	—	—	—	—	—
Preserved	1,528,180	514,447	30,548	—	120,850	73,958	10,426	91,289	105,432	—
Milk, Condensed	782,478	152,801	124,397	92,253	—	54,046	—	109,687	—	148,890
Poultry and Game	466,913	97,798	83,761	84,658	36,446	—	44,093	—	—	—
Sugar ..	8,632,689	4,554,492	1,089,076	104,697	213,397	1,360,174	1,490,731	1,170,125	371,145	221,958
Vegetables	968,308	657,412	341,174	53,198	491,690	27,422	36,940	95,333	84,388	58,589

EMIGRATION.

There was a decrease in the number of emigrants leaving the Port of Liverpool during the year 1911, the number being 312,027, a decrease of 24,011 from the previous year, when the number of emigrants leaving the Port was 336,088.

A special feature to be noticed is that the great majority of British emigrants, i.e., those from the United Kingdom and Ireland, go to Canada, whilst the bulk of the foreign emigrants go to the United States.

The following is a return of the number of emigrants and clearances of ships, including those passenger vessels in which medical inspection was not required, from 1900-1911—

TABLE 18.

In 1900, 149,884 Emigrants, and 660 Clearances of Ships.

„ 1901, 167,452	„	761	„
„ 1902, 214,113	„	791	„
„ 1903, 265,918	„	902	„
„ 1904, 274,584	„	924	„
„ 1905, 277,536	„	983	„
„ 1906, 352,818	„	1,090	„
„ 1907, 385,797	„	1,102	„
„ 1908, 212,155	„	1,113	„
„ 1909 253,400	„	1,117	„
„ 1910 336,088	„	1,149	„
„ 1911 312,027	„	1,153	„

The following Tables, Nos. 19 and 20, relating to Emigration, have been kindly supplied by the Board of Trade.

TABLE 19.

Statement showing the Number of Passengers of each Nationality that left the Port of Liverpool for places out of Europe in the year 1911:—

DESTINATION.	NATIONALITY OF PASSENGERS.						
	English.	Welsh.	Scottish.	Irish.	British Colonial.	Foreign.	Total
British North America.	103,870	1,746	4,353	2,260	6,392	22,254	140,875
Australia and New Zealand	10,477	132	2,630	423	80	76	13,818
British South Africa ..	321	—	3	7	7	7	345
India (including Ceylon)	3,005	54	816	155	340	236	4,606
Other British Colonies and Possessions	2,617	77	484	186	250	227	3,841
Total British Empire..	120,290	2,009	8,286	3,031	7,069	22,800	163,485
United States.....	45,505	1,719	2,632	4,187	1,216	86,870	142,129
Other Foreign Countries	4,202	295	666	194	10	1,046	6,413
Total Foreign Countries	49,707	2,014	3,298	4,381	1,226	87,916	148,542
Grand Total.....	169,997	4,023	11,584	7,412	8,295	110,716	312,027

TABLE 20.

Number of Passengers of each Nationality, as given in Table No. 11, that sailed from the Port of Liverpool, in each month of the year 1911.

MONTH.	NATIONALITY OF PASSENGERS.						
	English.	Welsh.	Scottish.	Irish.	British Colonial.	Foreign.	Total.
January	5,180	144	506	243	199	4,110	10,382
February	8,746	235	690	265	326	5,373	15,635
March.....	22,139	518	1,422	598	473	10,416	35,566
April	25,758	500	1,390	1,056	373	11,925	41,002
May	20,690	498	1,382	840	354	9,611	33,375
June	15,074	320	1,147	733	505	8,768	26,547
July	14,059	297	831	555	1,982	10,254	27,978
August.....	12,714	313	501	529	1,445	12,046	27,548
September	18,555	515	1,300	1,050	1,332	15,960	38,712
October	13,246	287	812	894	578	10,685	26,502
November	8,256	300	864	402	496	6,782	17,100
December	5,580	96	739	247	232	4,786	11,680
Total	169,997	4,023	11,584	7,412	8,295	110,716	312,027

Emigrant Inspections.

All emigrants travelling second class or steerage on board vessels outward bound are subject to inspection by the Medical Officers of the Board of Trade, Dr. Burland and Dr. Macintyre. The crews of all such vessels bound for America are also subjected to inspection by these Officers. An Inspector of the Port Sanitary Authority attends these clearances in order to supervise the removal of all persons who may be rejected on account of actual or suspected infectious disease.

There were 360 such inspections, and 75 persons were rejected on account of infectious disease, as shown in the following table.

TABLE 21.

Date, 1911	Name of Vessel.	Nature of Sickness.	Where taken to.	Description of Patient.
March 7	Ivernia ...	Observation ...	Returned home ...	Adult
„ 9	Dominion ...	Tonsillitis ...	Returned home to London	Child
„ 11	Laurentic ...	Observation ...	Returned home ...	Adult
„ 28	Cymric ...	Measles ...	City Hospital, Parkhill ...	Child
April 11	Zealand ...	Chicken-pox ...	Boarding House ... Duke Street	Children (2)
„ 13	Pakeha ...	Ringworm ...	Returned home to Newcastle ...	Child
„ 25	Cymric ...	Chicken-pox ...	Boarding House, Great George Square	Infant
„ 29	Canada ...	Chicken-pox ...	Boarding House ... Paradise Street	Child
May 18	Corsican ...	Measles ...	City Hospital, Fazakerley.	Child
„ 20	Baltic ...	Chicken-pox ...	Boarding house ... Duke Street	Infant
May 20	Dominion ...	Trachoma ...	Boarding House ... Paradise Street	Adults (5)
„ 20	„ ...	Barber's Itch ...	Boarding House ... Paradise Street	Adult
„ 24	Haverford ...	Chicken-pox ...	Boarding House ... Great George Square	Adult
June 3	Canada ...	Diphtheria ...	City Hospital, Mill Lane.	Child
„ 15	Corsican ...	Phthisis ...	Returned home to Leeds...	Adult

TABLE 21.—*Continued.*

Date, 1911.	Name of Vessel.	Nature of Sickness.	Where taken to.	Description of Patient
June 20	Cymric ...	Sore Eyes ...	Boarding House ... Duke Street	Adult (3)
„ 20	„	Trachoma ...	Boarding House ... Duke Street	Adult
„ 20	„	Inflammation of Eyes ...	Boarding House ... Duke Street	Adult
„ 30	Tunisian ...	Observation ...	Boarding House ... Kent Square	Child
July 2	Arabic ...	Convalescent Chicken-pox ...	Returned home to Horsley Street, Liverpool	Children (2)
„ 7	Lake Manitoba ...	Chicken-pox ...	Boarding House ... Paradise Street	Child
„ 8	Laurentic ...	Chicken-pox ...	Boarding House ... Duke Street	Child Infant
„ 22	Megantic ...	Chicken-pox ...	Boarding House ... Duke Street	Infant
Sep. 6	Haverford ...	Observation	Boarding House ... Great George Square	Child
„ 7	Corsican ...	Convalescent Chicken-pox ...	Returned home to Sculthorpe ...	Child
„ 10	Saxonia ..	Chicken-pox ...	City Hospital, Fazakerley.	Infant
Oct. 17	Devon ...	Chicken-pox ...	Boarding House ... Old Hall Street	Child Infant
„ 28	Megantic ...	Trachoma ...	Boarding House ... Duke Street	Adults (28)
Nov. 1	Zealandic ...	Measles ...	Boarding House ... Union Street	Child
„ 16	Cornwall ...	Scabies ...	Returned home to South Shields ...	Child
„ 21	Arabic ...	Observation ...	Boarding House ... Duke Street	Child
„ 25	Megantic ...	Convalescent Chicken-pox ...	Boarding House ... Duke Street	Children (5)
Dec. 9	Lusitania ...	Observation ...	Boarding House ... Great George Square	Child
„ 28	Haverford ...	Chicken-pox ...	Boarding House ... Great George Square	Infant

As in previous years, the various bodies connected with the administration of the Port, viz., H.M. Collector of Customs and staff, the Mersey Docks and Harbour Board and their officers, and the various Shipping Companies, have co-operated with the Port Sanitary Authority in preventing disease, and have worked harmoniously together in every particular. The Consular Body have at all times given courteous assistance.

E. W. HOPE, M.D.

MUNICIPAL OFFICES,

LIVERPOOL, 28th *March*, 1912.

PORT ISOLATION HOSPITAL.



GENERAL VIEW OF HOSPITAL.

PORT ISOLATION HOSPITAL.



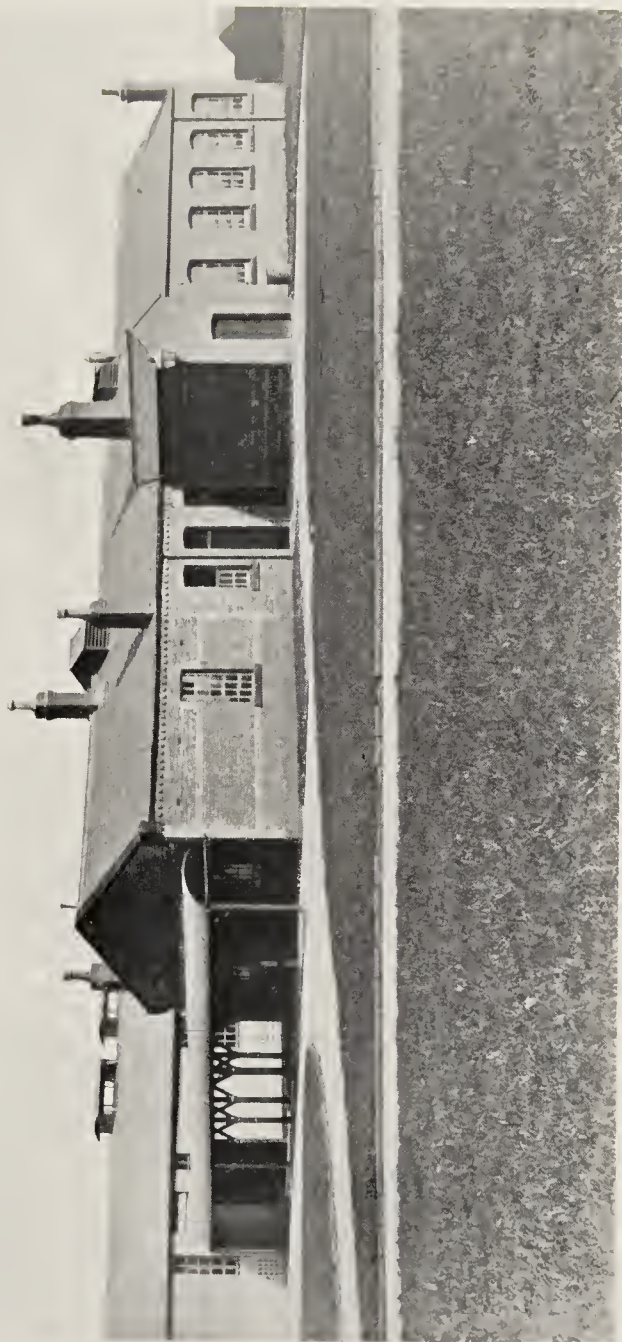
THE NURSES' HOME.

PORT ISOLATION HOSPITAL.



NEW WARDS.

PORT ISOLATION HOSPITAL.



LAUNDRY AND WARDS.

PORT ISOLATION HOSPITAL.



THE JETTY.



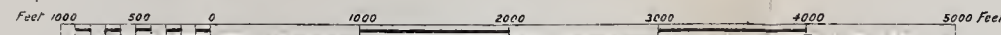
R I V E R M E R S E Y



MERSEY DOCK ESTATE **PLAN OF BIRKENHEAD DOCKS 1912.**

NOTE:- GRAIN IS IMPORTED IN LARGE QUANTITIES
 FROM THE BLACK SEA, INDIAN AND
 SOUTH AMERICAN PORTS.

SCALE.



ANTHONY G. LYSTER, C.E., M.Inst.C.E.,
 Engineer in Chief.
 MILES KIRK BURTON,
 General Manager & Secretary.

MERSEY DOCK ESTATE
PLAN OF LIVERPOOL DOCKS 1912.



 } DENOTES {

 COLD STORES

 PORT SANITARY OFFICES



ANTHONY G. LYSTER, C.E.M. Inst. C.E.
Engineer in Chief.
MILES KIRK BURTON.
General Manager & Secretary

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